textile bulletin

MAY · 1959

Why Modernize Spinning?
(Page 61)

Sectional INDEX

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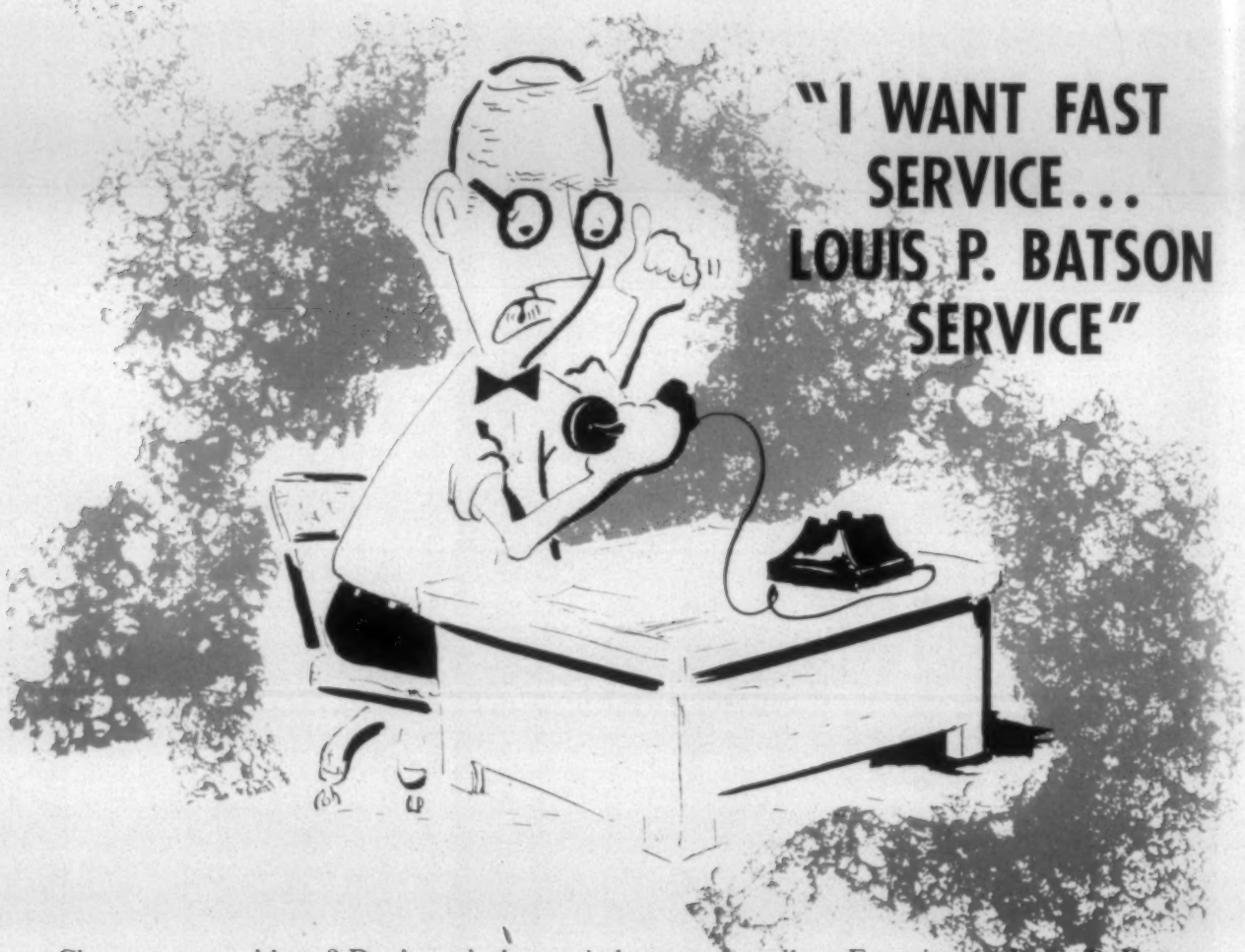
Holler it right into the phone



Changeover problems? Don't push the panic button . . . call us. Experienced Louis P. Batson representatives are near by ready to assist, recommend and rush to you the parts you need . . . all you have to do is . . . holler " . . . I want Louis P. Batson service!" Holler it right into the phone after previously dialing GREENVILLE CEdar 2-7691.

LOUIS P. BATSON *Company*

P. O. Box 772
GREENVILLE, S. C.

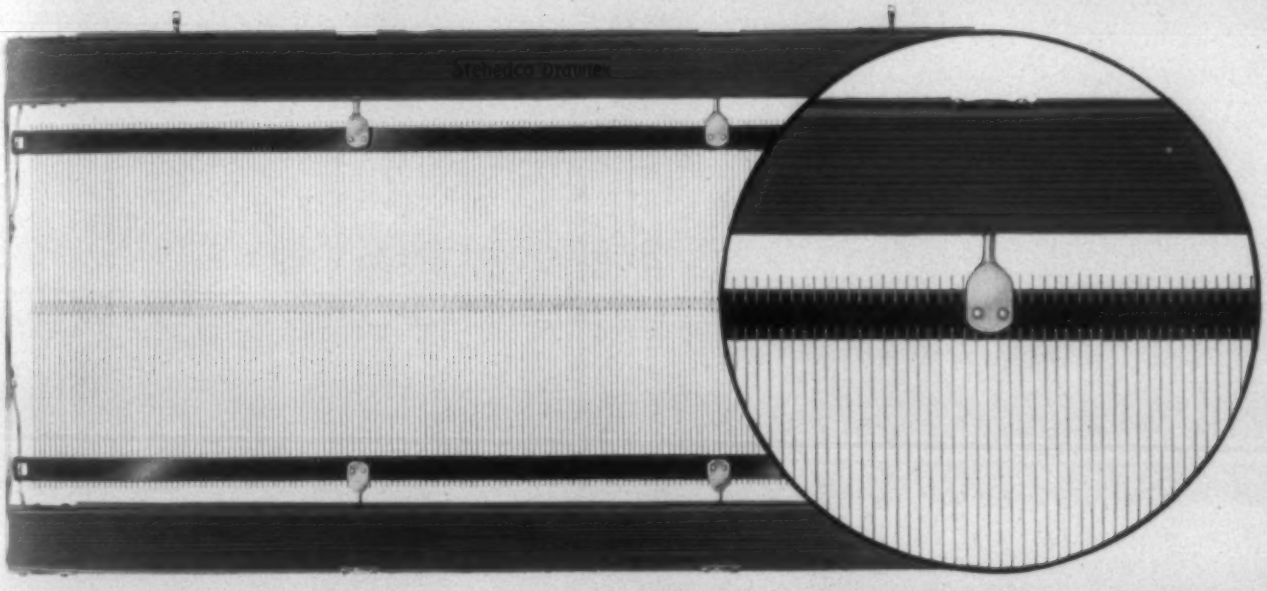
These are always "on the shelf" ready for immediate delivery:

• ShuR-CusH vibration pads • ShuR-TuFF harness strapping • woven felts • felt cut parts • ShuR-TuFF wirecenter harness cords • hookless harness adjustors • dobby and gem head stirrups, loops, jackeyes • positive adjustment jack sticks and parts • neva wear case hardened jack hooks • turnbuckle harness adjustors and regulators • adhesives and cements • sheaves • static eliminators • hand dryers • • laminated picker sticks, sweep sticks, power adjustors • pickers, check straps, belting • temple rolls, shell rolls, beam barrels • shuttle fur • clear plastic for loom aprons, covers, dividers • leece rods, warp clamps, loom flags • castings—aluminum, brass • mats and matting • • fancies or fancy rolls for cards • jacquard twine and neck cord • set mark preventors for looms • harness connectors—fibre, fabric, leather • bumpers • yarn tinting devices for looms and quillers • ShuR-TuFF lug straps • shuttle and bobbin protectors • time clocks, watchmen clocks • shuttle pegs and bristles • oilless bushings • lug hold ups • take up roll covering • harness and leader wires • "C" hooks and "S" hooks

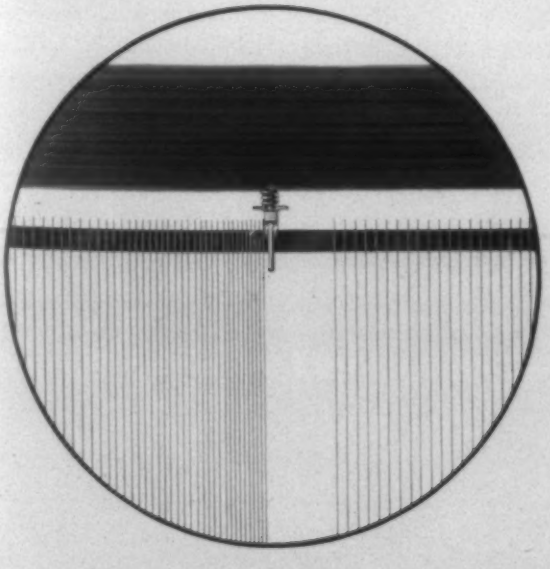
Stehedco

DRAWTEX HARNESS

IMPROVES EFFICIENCY AND QUALITY WITH PERFECT HEDDLE SPACING



Are your weavers and fixers handicapped by bunching of heddles at rod supports, as illustrated below?



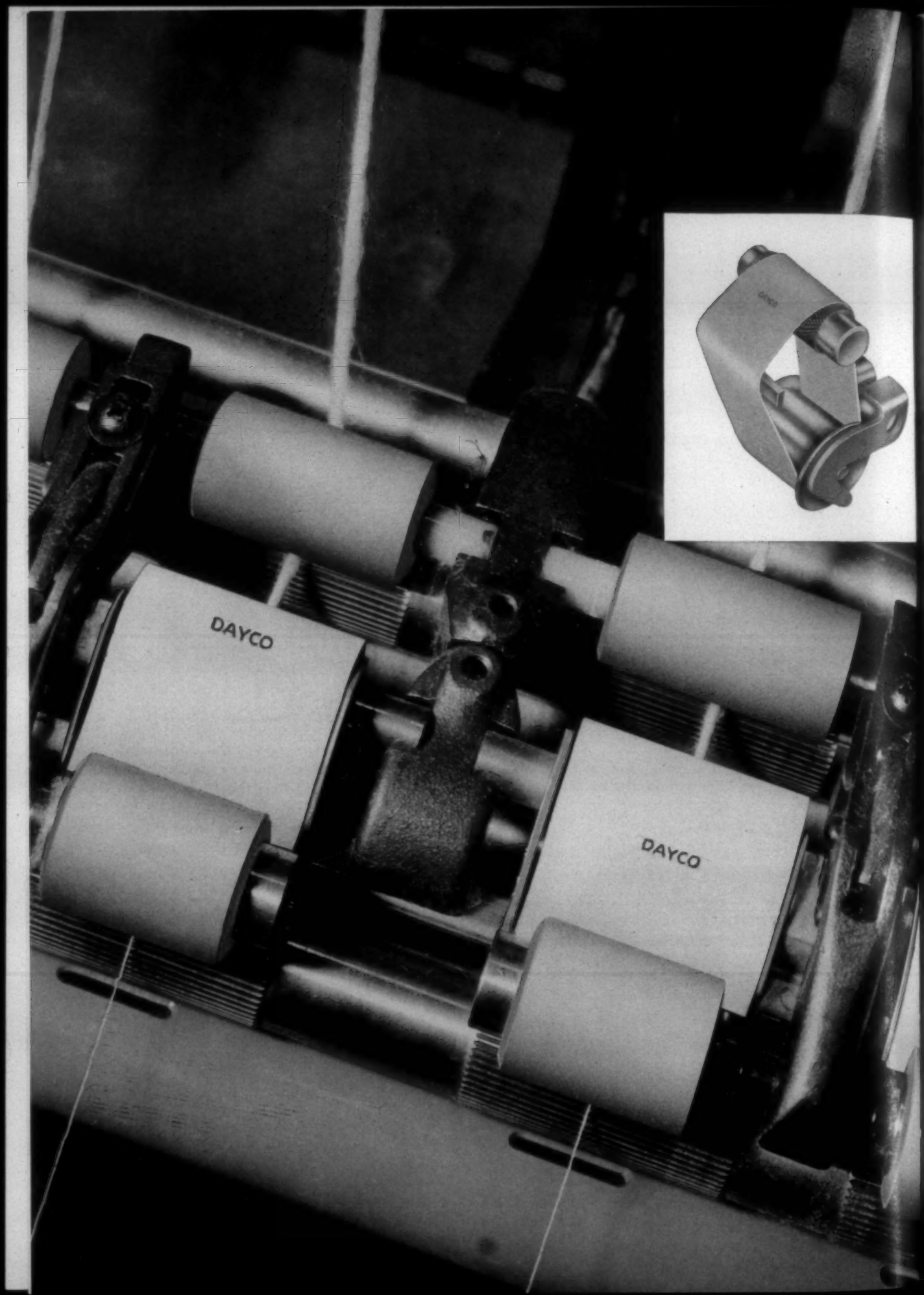
Stehedco Drawtex rod supports allow completely free movement of the heddles. There is no obstruction to keep the heddles from finding their natural position on the rod. Therefore, warp streaks from heddle bunching are completely eliminated and down time to correct this condition is a thing of the past.

This is only one of many Stehedco Drawtex advantages. Ask our sales engineers to tell you all about them.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

F-5816

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N. C.
Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.


DAYCO
DAYCO

Speed! Quality! Economy!

You get all 3 with Dayco Aprons and Cots

Faster start-ups, even on Monday mornings, save you time and save unnecessary costs. That's because Dayco Aprons and Cots never become gummy . . . won't adhere to fibers in any weather. With a dry, moisture-free surface that resists static build-up, the Dayco combination cuts ends-down and laps-ups to a minimum.

10% better quality is easy to prove with the smoother drawing action of the new Dayco Embossed Design Aprons. The embossed inner surface . . . really the first new advance in apron design in over 20 years . . . cuts nose bar drag in half to let the new apron glide over the nose without chatter or tucking. Try it yourself!

"Economy" costs no more with the Dayco combination. They're absolutely the finest available, yet Dayco Embossed Design Aprons cost not one penny more than conventional aprons. With less friction drag than any other apron tested, the new Dayco Embossed Design Apron cuts waste collection at the nose bar by fully 50%.

Reinforced for longer life with a stabilized inner ply, Dayco Aprons won't curl, stretch or take a permanent set. You'll want to pair them with Dayco Cots . . . outstanding for greatest resistance to pitting, grooving or glazing in any operation. That way, you double your savings and keep downtime to the barest minimum.

Increase your output of fine quality yarn by outfitting your frames with Dayco's exclusive Embossed Design Aprons and oil and heat resistant Dayco Cots.

Order from your Dayco representative the next time he calls or write The Dayton Rubber Company, Textile Division, 401 S.C. National Bank Building, Greenville, S. C.

Dayton Rubber

Dayco and Thorobred Products for Better Spinning and Weaving

OVERSEAS PLANT, THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND

Furniture courtesy of John H. Pray & Sons Co., Boston, Mass.

Shifting markets demand versatile looms — weave these, and other fabrics . . . with UNIFIL®

The amazing versatility of a UNIFIL-equipped weave room means you can switch filling from yarn to yarn, and supply package to supply package, in minutes. No more changing in quilling room . . . yarn inventory on quills practically eliminated . . . minimum work load adjustments.

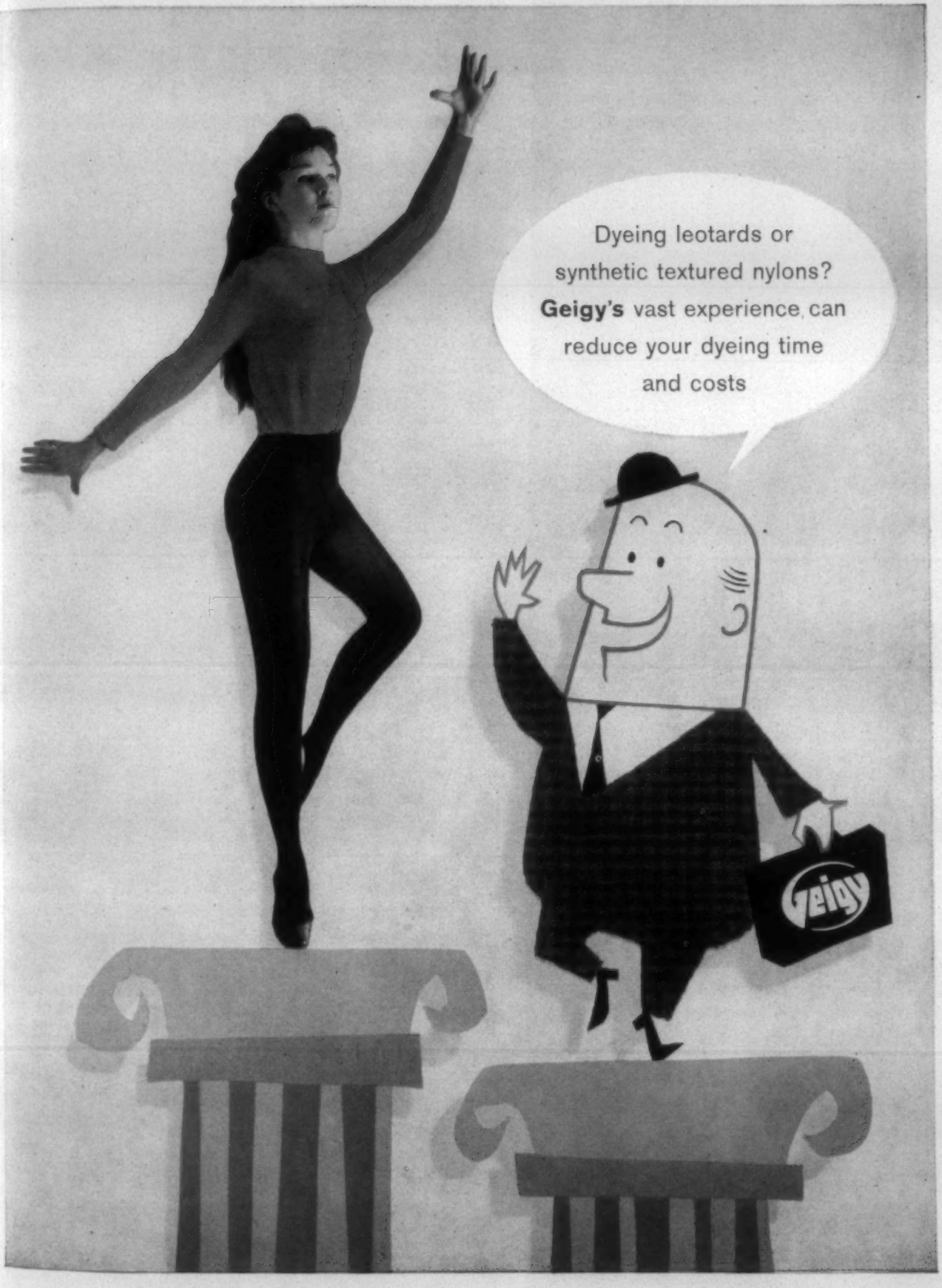
Mills are proving every day that their UNIFIL-equipped looms have unexpected versatility. They are weaving cotton, spun and filament synthetics, textured and novelty yarns, all with high efficiency and improved quality.

UNIFIL can move your mill into new markets, with higher profits, quickly. *The versatile weave room is the UNIFIL-equipped weave room.* Your neighbors* have discovered it . . . when will UNIFIL Loom Winders make more dollars for you?

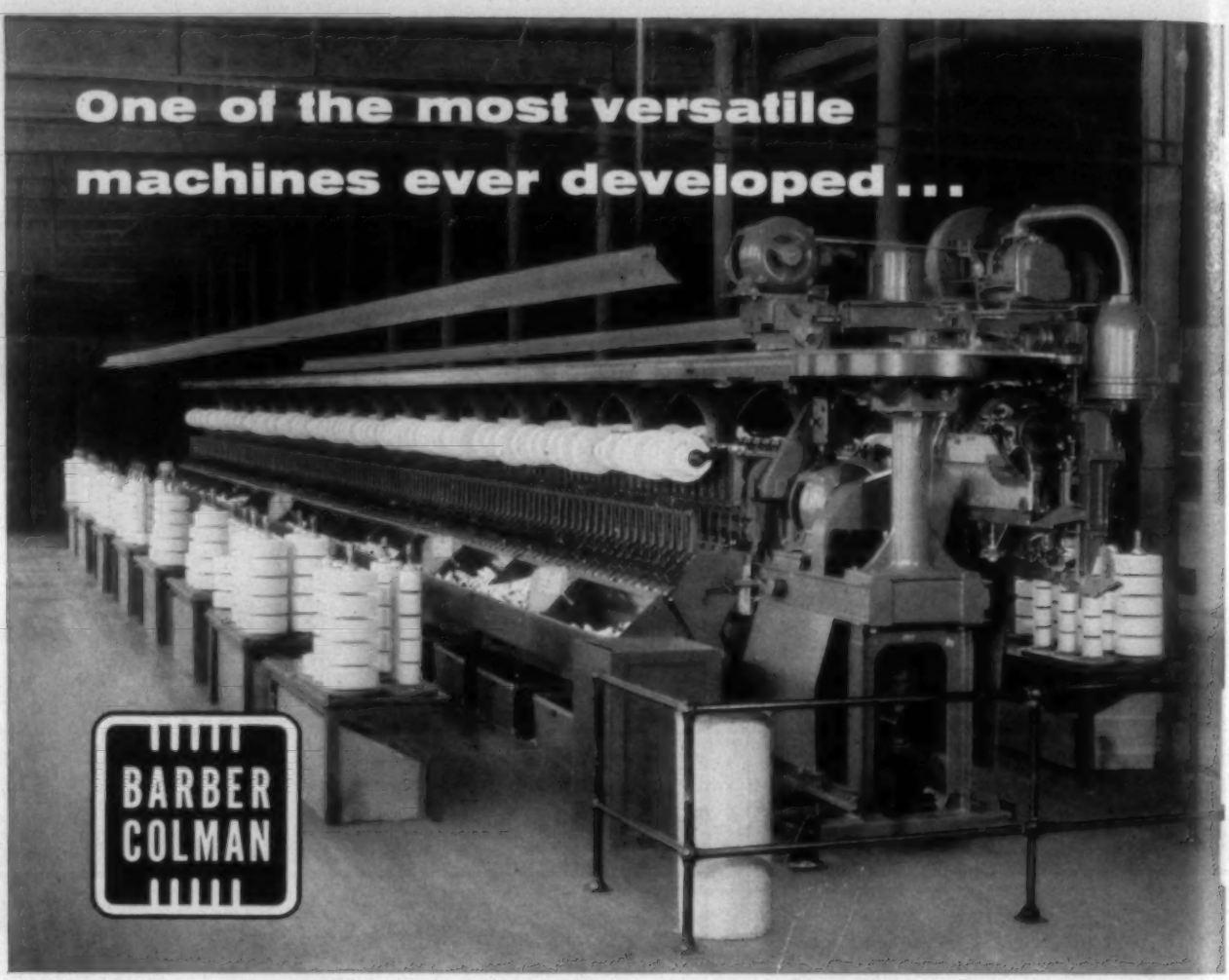
* Amerotron, Berkshire-Hathaway, Burlington, Cannon Mills, Cone Mills, Dover Mill Group, Judson, Laurens, Pansy Weaving Mills, Ponemah Mills, Riegel Textile, Stanwood Mills, J. P. Stevens, United Merchants, Woodside Mills. (A partial list, only.)

23.8.8A

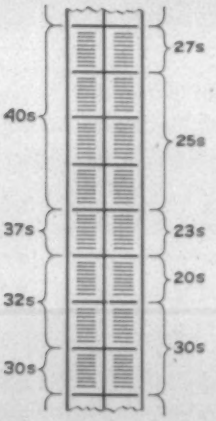
UNIVERSAL WINDING COMPANY



Geigy Dyestuffs Division of Geigy Chemical Corporation
Saw Mill River Road, Ardsley, New York



MULTIPLE-COUNT SPOOLER



Sale yarn mills and producers of piece goods that use various counts of different mixtures will find that this machine can be a very profitable investment. It is the famous and familiar Barber-Colman Automatic Spooler, but now you can wind . . .

A DIFFERENT COUNT EVERY 9 UNITS

The machine is built in "bays" between posts that support the traveler track, with nine bobbin-to-cheese winding units in each side of each bay. Empty bobbins, instead of being conveyed to a single sorting table, drop into separate boxes under each bay, thus enabling each group of nine units to be loaded and run with a different yarn. Starter boxes and cheese tables are set up individually for each bay. The only limitation is that the extremes of different counts on the machine at any one time must fall within the range of the knotter in the traveler. Changes can, of course, be readily made at any time, and any number of bays can be run on identical yarns. (Note the dividers between the bobbin trays on the machine shown above.) *Full details on the many adaptations of this versatile machine can be obtained from your Barber-Colman representative.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

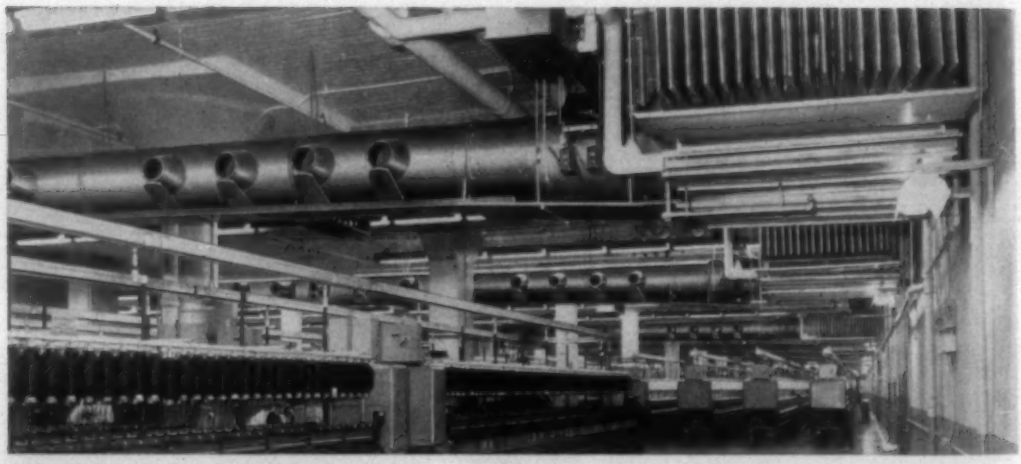
ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

INDIA	MEXICO	BRAZIL	JAPAN	PAKISTAN	PAKISTAN
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apartado 7348 Mexico D.F., Mexico	Industria e Comercio de Maquinas S. A. "COMASA" R. Glicerio, 537/547 Sao Paulo, Brazil	Do-Yei Shoji Kabushiki Kaisha Atlas Building (7th Floor) 11, Bingo-Machi, 3-Chome, Higashi-Ku Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr) Ltd. 730, Muhammadi House, McLeod Road Karachi 2, Pakistan

DAN RIVER'S
1st CHOICE
5 TIMES

Says BASIL D. BROWDER
Executive Vice-President
Dan River Mills, Danville, Va.



BAHNSON HUMIDUCTS

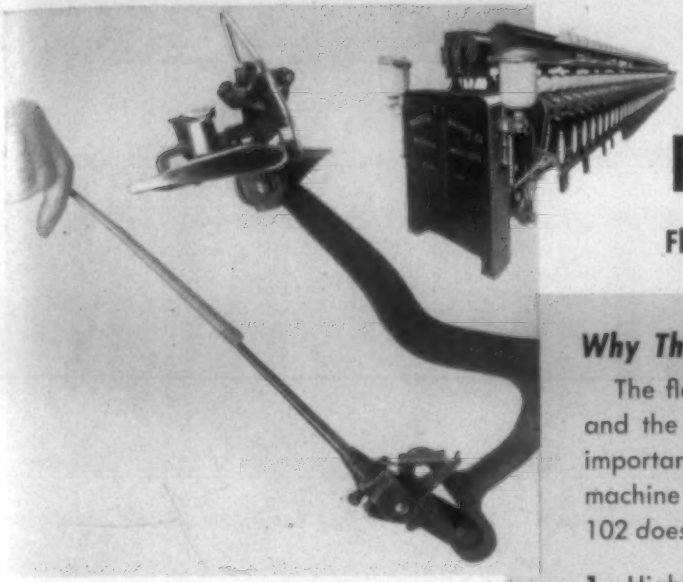
WITH REFRIGERATION AND EASY-FLO FILTERS PROVIDE FLEXIBLE UNIT-SYSTEM AIR CONDITIONING AT LOW COST

Free Illustrated Bulletins
For full details write for Humiduct Bulletin 4A, Easy-Flo Bulletin 27A.

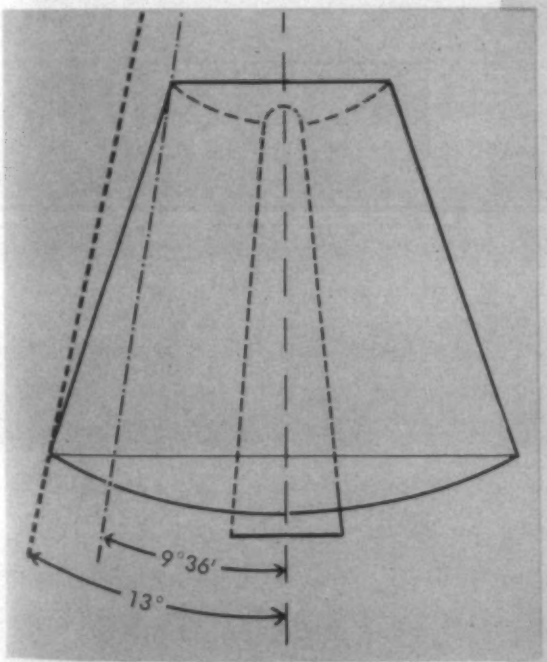
"Five times in our decade of modernization," says Mr. Basil D. Browder, "we chose Bahnson Humiducts for Spinning and Weave Rooms at Dan River. Humiduct's versatile unit design gives us control flexibility for production requirements . . . Easy-Flo Filters provide clean air, reduce cleaning time . . . overtime maintenance is eliminated with Humiducts. We found that Humiduct's low first cost and efficient operation gave us the most modern and economical air conditioning for our needs."

Bahnson AIR-O-MATION
AIR AT WORK FOR INCREASED PROFITS

THE BAHNSON COMPANY
WINSTON-SALEM, N.C., U.S.A.



TILTING BOBBIN PIN FOR SOFT TWIST COPS WHERE SINGLE BALLOON AND MINIMUM TENSION ARE REQUIRED



DRAWING OF 9°36' TAPER CONE

SLUB CATCHING AND WAXING ATTACHMENT

FOSTER MODEL 102

Flexibility — Economy — Quality Winding

Why This Machine Produces a Quality Package

The flexibility (adaptability to changing conditions) and the economy of the Foster Model 102 are very important, but they would be of far less value if the machine did not produce a quality package. The Model 102 does produce a quality package and here's why: —

1. Highly efficient slub catchers automatically inspect the yarn.
2. The 9° 36' convex base cone promotes free delivery on the knitting machine — prevents underwinding and "nipitis".
3. Yarn conditioning and waxing attachments give proper softness and lubrication to yarn.
4. Ribbon breaker prevents ribbon wind.
5. Idler shell on winding drum prevents burning or chafing of yarn at nose of cone. Hairline fit prevents cutting.
6. Adjustable angle of wind assures properly formed packages which hold their shape in transit.
7. Even the softest twist yarns can be wound with minimum breakage, because they can be wound with no tension, if necessary.

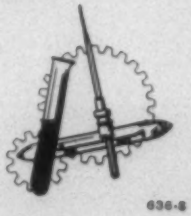
Learn also about the flexibility and economy features of the Model 102. Write for Bulletin A-95-A.

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

Southern Office — Johnston Bldg., Charlotte, N. C. *Canadian Representative* — Ross Whitehead & Co., Ltd. 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • *European Representative* — Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton-Under-Lyne, Lancashire, England



A Member of American Textile Machinery Association

636-8

Another COCKER Exclusive*

THE NEMO JET COOKER**

Fresh Size . . . as you need it. No film . . . no lumps . . . no hard size
Eliminates batch cooking and storage kettles
Saves on materials

The Nemo Jet Cooker will reduce your costs and will improve your weaving efficiency by producing more uniform size. The Nemo Jet Cooker assures you of a constant supply of fresh size . . . cooked when you want it . . . and piped immediately to the size box. This eliminates evaporation, surface film, lumps and hardened size.

The use of the Nemo Jet Cooker results in 100% breakdown of cold slurry, thus saving on raw materials. It also eliminates the dumping of unused finished size and the stream pollution which this often causes.

LET US SEND YOU FULL INFORMATION

*Cocker Machine & Foundry Co. has acquired exclusive manufacturing and sales rights on this equipment.

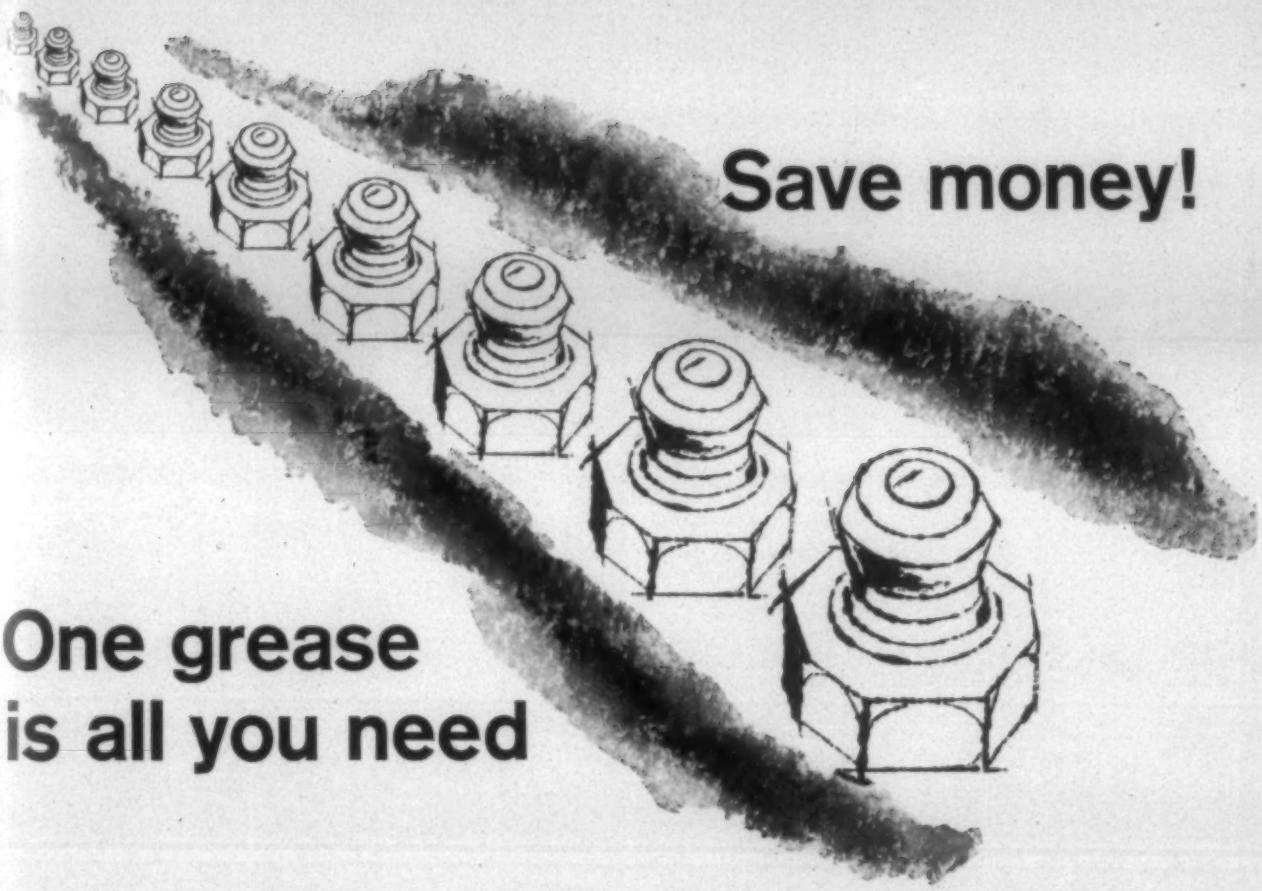
**Pat. Applied For

COCKER MACHINE & FOUNDRY COMPANY

IN CANADA:
Contact W. S. Clark
Montreal, Canada
Oxford 7-2242

PLANT & OFFICES
at Ranlo, N. C.
MAILING ADDRESS
Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT



Save money!

One grease is all you need

If you use several greases to lubricate your plant equipment—stop! You'll save money with Sinclair Litholine® Industrial Grease because this one grease simplifies inventory, saves time. Recommended for all types of bearings. It has also earned an enviable reputation for high temperature bearing performance and mechanical stability. When management asks how you've cut costs, tell them you've switched to Sinclair Litholine and show them the results.

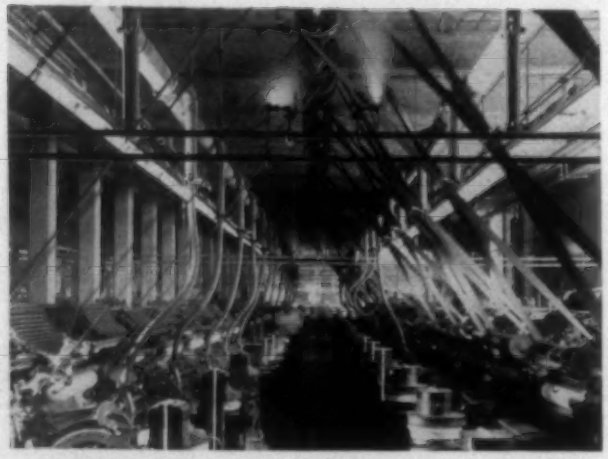
Find out how Litholine can help you. Call your nearest Sinclair Representative, or write for free literature—Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y. There's no obligation.

Sinclair

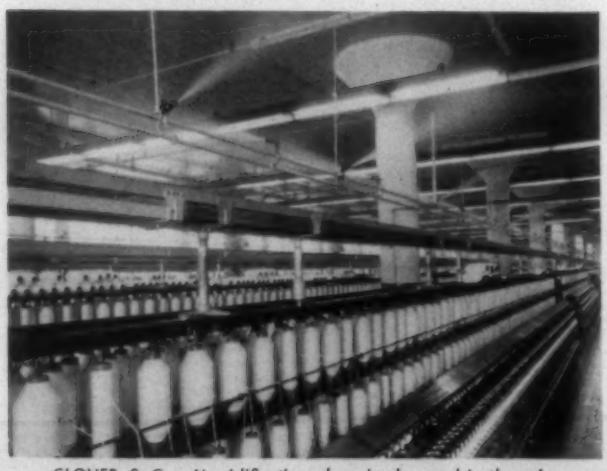
Litholine® Industrial Grease

WILLIMANTIC, CONN. — Humidification with cooling was the choice in this mill.

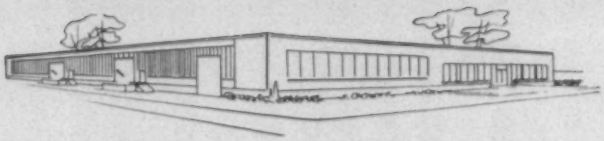
DALTON, GA. — Amco Humidification with cooling was preferred for spinning operation at Dalton, too.



NEWNAN, GA. — Amco Humidification alone was selected for carding room at Newnan.



CLOVER, S. C. — Humidification alone is also used in the spinning room here.



Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

a leading All-American team...

AMERICAN MOISTENING COMPANY

and

AMERICAN THREAD COMPANY

A 65-year old association which has resulted in great gains in product quality and productivity

Correct yarn regain through maintenance of normal moisture content is only one of the benefits which American Thread has enjoyed as a result of the use of Amco humidification. Among the others are yarn numbers kept more even; increased output due to closer machine tolerances and less static electricity; improved product quality because of fewer thread imperfections, reduced dust and fly, more operator comfort.

Amco, of course, designs *all* types of systems — straight humidification; humidification in combination with ductless evaporative cooling, as used by American Thread; dry duct systems; and central station air conditioning.

For expert advice, backed by many years of textile air conditioning experience, call on Amco. An Amco engineer will be glad to suggest a solution to any air conditioning problem you may have. There is absolutely no obligation.

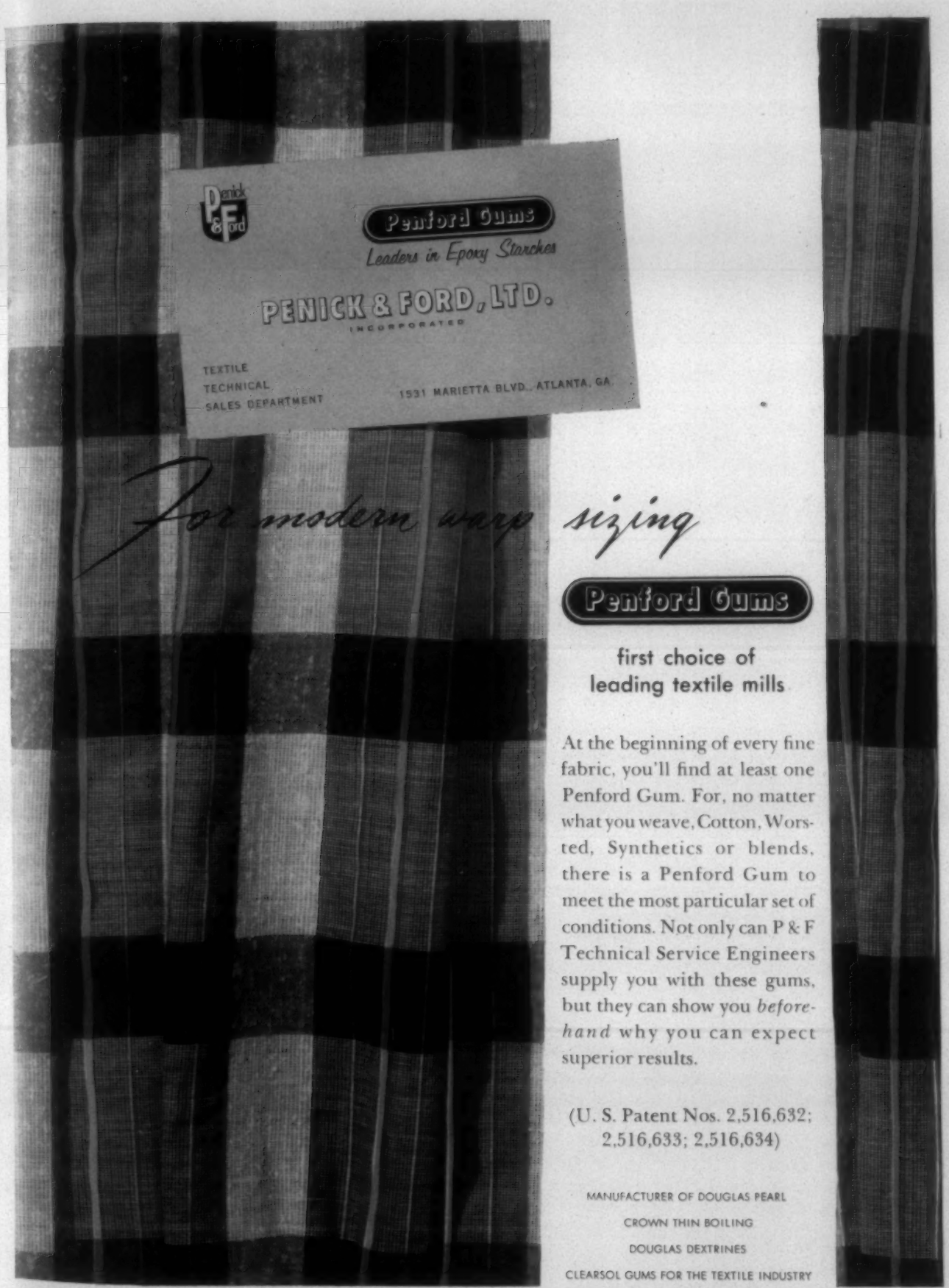
AMCO

SINCE 1888

AIR CONDITIONING EQUIPMENT

AMERICAN MOISTENING COMPANY • CLEVELAND, NORTH CAROLINA

BRANCHES: ATLANTA, GA. • PROVIDENCE, R. I. • TORONTO, CANADA



For modern warp sizing

Penford Gums

first choice of leading textile mills

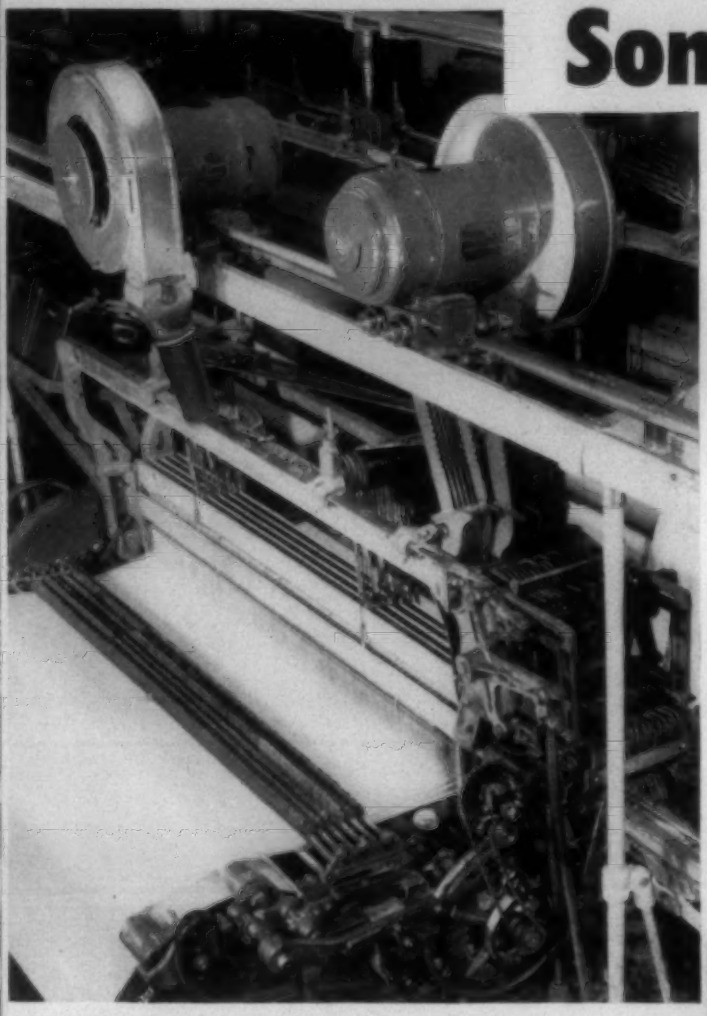
At the beginning of every fine fabric, you'll find at least one Penford Gum. For, no matter what you weave, Cotton, Worsted, Synthetics or blends, there is a Penford Gum to meet the most particular set of conditions. Not only can P & F Technical Service Engineers supply you with these gums, but they can show you *beforehand* why you can expect superior results.

(U. S. Patent Nos. 2,516,632; 2,516,633; 2,516,634)

MANUFACTURER OF DOUGLAS PEARL
CROWN THIN BOILING
DOUGLAS DEXTRINES
CLEARSOL GUMS FOR THE TEXTILE INDUSTRY

TEXTILE TECHNICAL SALES SERVICE AND FIELD DEVELOPMENT

Some Case Studies



First Commercial Installation

A North Carolina mill on spun synthetics.
Completely equipped in four steps:

1951—Original tandem unit, with oscillating outlets, over XD's, in No. 1 Mill. Still operating as illustrated.
1952—Remaining looms in this room equipped.
1953—XD's and W-3's in No. 2 Mill equipped.
1955—New XD's equipped.

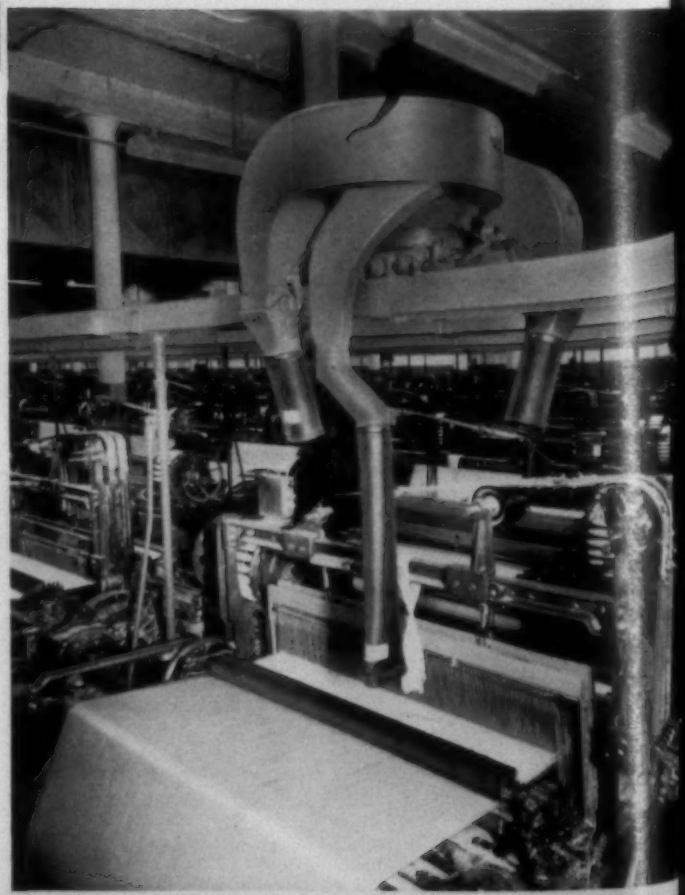
(70% r.h. Evaporative cooling until 1954, when refrigeration added.)

Another Early Installation

A South Carolina mill on combed broadcloth.
Completely equipped:

1953—Tandem unit over X-2's.
1956—System extended to remaining looms in room.
1958—Oscillaires over X-2's in another room.

(80% r.h. Central air washer humidification with booster atomizers.)



Equipment Design

Track:
Sturdy two rail—no swaying of unit.
Floor supported, for clear ceiling areas and ready accessibility. Supports easily removable for major loom maintenance.
Shock-absorbing mounting where needed.

Electric Conductors:
Solid brass. Safely shielded. Non-spark.

Oscillaire Blowing Unit:
Single-carriage, -motor, -fan. Low maintenance.
Oscillating and fixed air currents.
Air automatically deflected from certain areas.
High and low velocities separately adjustable.
Controlled air prevents lint boil-ups, loom troubles, seconds.
Travel is continuous-direction, or reversing.
Unit cleans itself and track.

Materials and Finishes:
Suited to dampness, stickiness and vibration.
Cleaner and track special-painted. Pastel and contrasting colors available.

# of Parks-Cramer Loom Cleaning

A Georgia Mill (below)

Completely equipped.

1956—Portion of X-2's in annex.
1957—Remaining X-2's in annex.
1958—X-2's in main weave room.

(82% r.h. Wet duct system. Drills, twills, and heavy cotton. Good cleaning under conditions that are not easy.)

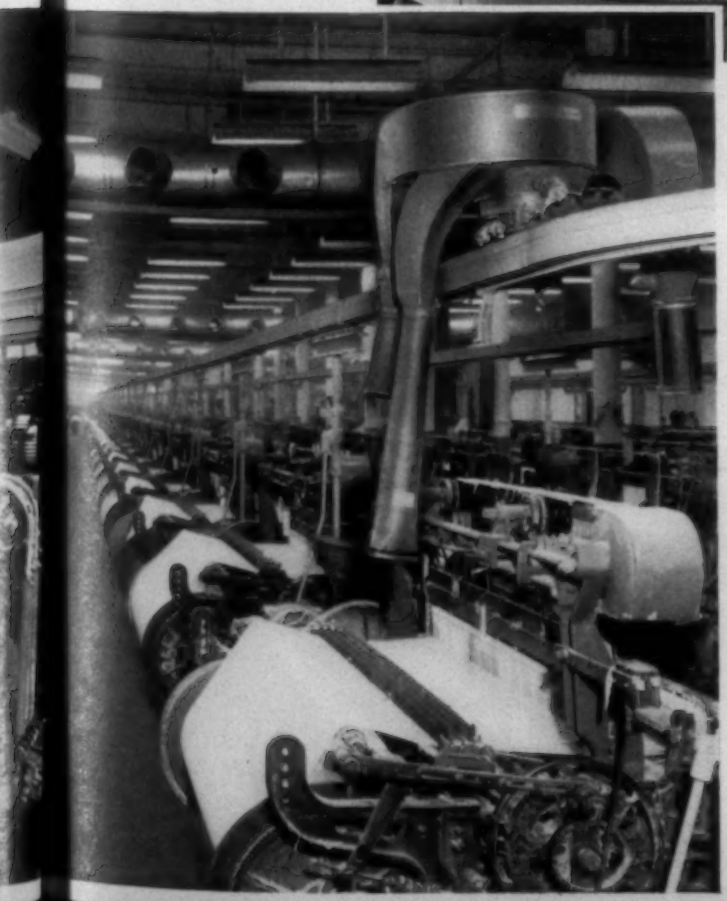
A Look at the Future

First commercial installation of shuttleless looms. Mill located in Georgia.

1958—Entire installation of DSL looms equipped.

Note traveling vacuum lint pickup and disposal unit in tandem with Oscillaire blowing unit.

(75% r.h. Dry duct air conditioning system with refrigeration and booster atomizers.)



Applications and Benefits

Oscillaire Loom Cleaning is applicable to a wide variety of looms, products and mill conditions, cotton or synthetics, fine or coarse fabrics.

Delivers air currents onto arch, harnesses, harness motions, drop wires, stop motions, transfer motions, lay, shuttle boxes, beam, yarns and fabric.

Prevents objectionable lint accumulations between warp-outs. Eliminates most hand cleaning by compressed air. Lessens loom stops. Increases production.

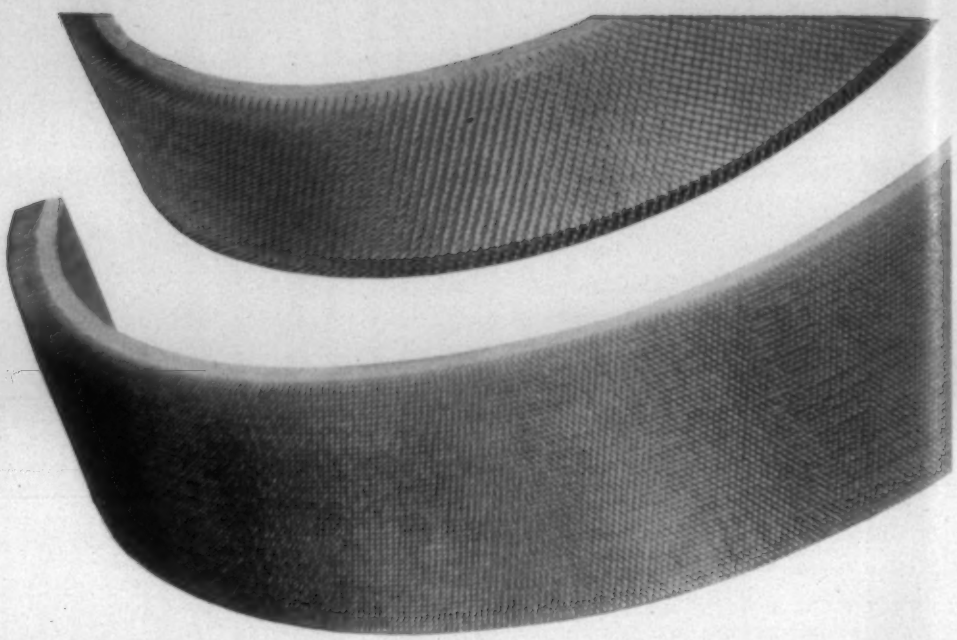
Greatly reduces woven-in lint, oil spots, set and start-up marks, skips, floats and pick-outs.

Parks-Cramer Company

FITCHBURG, MASS.

CHARLOTTE, N. C. ATLANTA, GA.

Traveling Cleaners since 1926



Regardless of Wire Size or Type of Foundation

there is only Top Quality

Tuffer TRADE MARK

For you, that means better carding at lower cost.

A boss carder in a large mill writes, "We save on grinding costs because Tuffer is so accurately ground we can put it on the cylinders as it comes to us."

Precision grinding is but one feature. In all Tuffer clothing, the wires are exactly positioned for uniform height, pitch and angle of every tooth. And the patented Tuffer foundation cushions the wires to shock, while holding them firmly yet flexibly in place.

In standard sizes or in specially engineered clothing, the "Tufferizing" Process guarantees consistent quality.

TUFFER PRODUCTS

- Card Clothing for Woolen, Worsted, Cotton, Asbestos and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- Lickerins rewired at Southern Plants
- Hand Stripping Cards

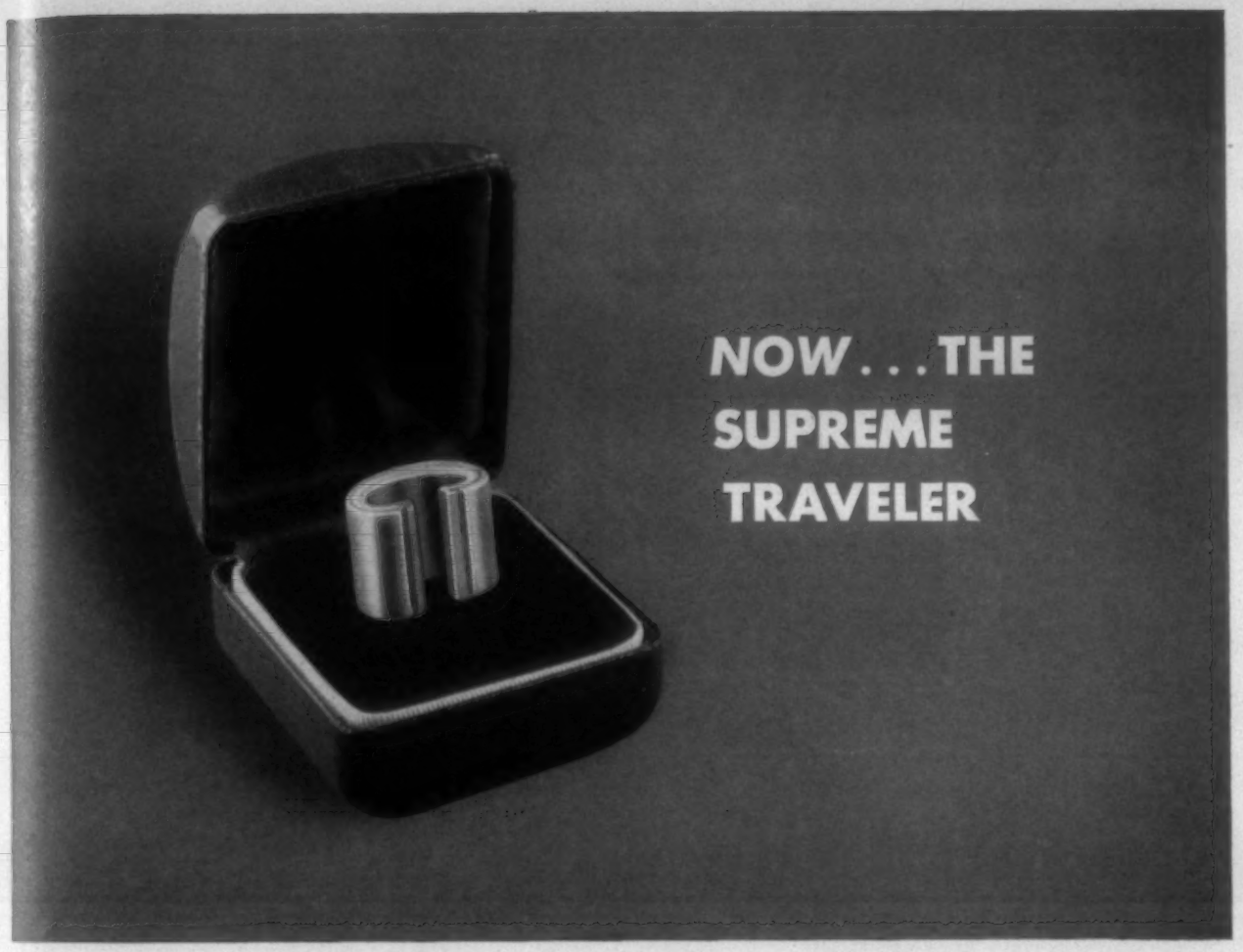
HOWARD BROS.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.

Direct Representation in Canada

591



Superior Performance to match its name!

Years in the development and testing state . . . months in actual use by large mills under every conceivable operating condition—the new CARTER "Supreme" traveler is now ready.

The secret—a gleaming, satin-smooth, *plated* finish —increases traveler life over 1,000%, in some cases. One large mill, changing travelers every 12 hours, now runs the "Supreme" *a minimum of four weeks!* It also completely solves the troublesome rust problem, and permits maximum control of neps.

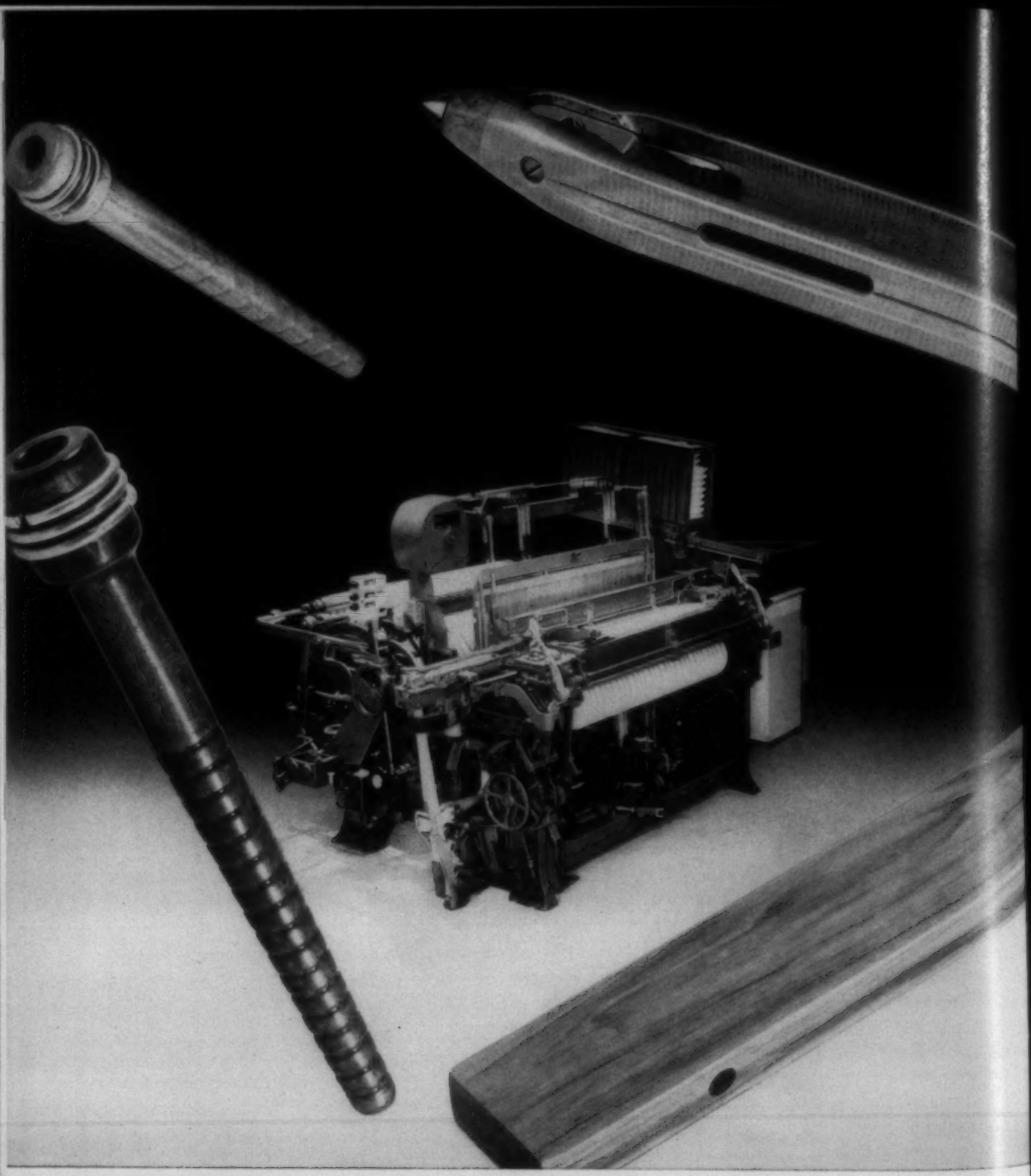
You get longer, smoother running with far less down time . . . you save labor costs with fewer traveler changes . . . you get improved yarn quality and strength when you specify CARTER "Supreme" —a superior traveler in every sense of the word.

Ask your CARTER representative to tell you the "Supreme" story today.

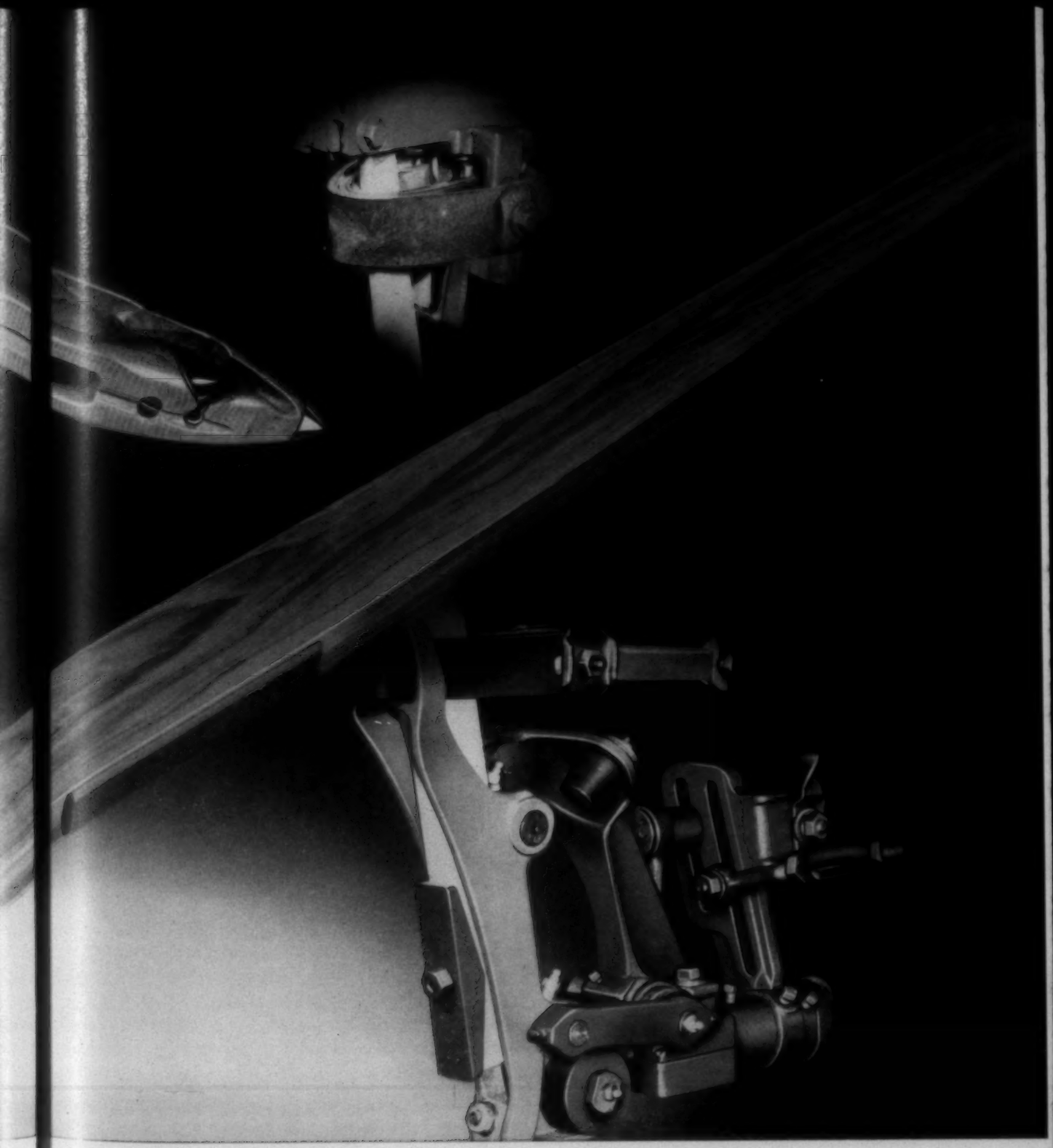
REPRESENTATIVES

R. A. Haynes, Special Representative, 114 W. Fifth Ave. Gastonia, N. C.
W. T. Horton . . . . . Belmont, N. C.
D. E. Phillips . . . . 2702 Garden Lakes Blvd., Rome, Georgia
P. L. Piercy . . . . . 128 Hudson St., Spartanburg, S. C.
J. R. Richie . . . . . 1307 Crabapple Lane, Raleigh, N. C.
J. K. Davis . . . . . P. O. Box No. 129, Auburn, Ala.
Oscar S. Lapham . . . . . P. O. Box 651, Providence, R. I.
L. O. Talley . . . . . P. O. Box 1169, Mexia, Texas
Hugh Williams & Co. . . . . 27 Wellington St., E., Toronto, Ontario, Canada

Carter
TRAVELER COMPANY
DIVISION OF A.B. CARTER, INC. MANUFACTURERS OF THE BOYCE WEAVERS KNOTTER GASTONIA, NORTH CAROLINA



Planned for profit . . . Greater weave room efficiency and profit is more easily accomplished when Draper looms are backed by Draper accessories and <u>original</u> Draper repair parts. It's just good business sense to look to the <u>original</u> loom builder for quality in essential accessories and repairs. Every part bearing the Draper trademark reflects careful



development and extensive mill trial. For these reasons, Draper parts and accessories give the maximum in service and performance. Why take chances on misfits or mongrel designs? When you specify original Draper products you are protecting your profit picture.

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For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

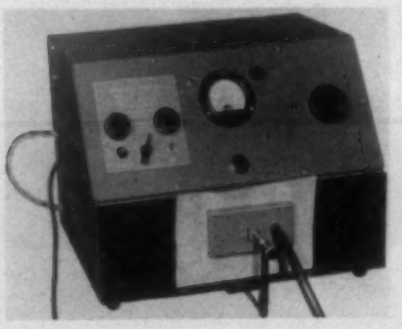
Yarn Tester

Shown here is Scott Testers' new Scotamatic which provides for the completely automated testing of yarns and cords in the tensile range up to 50 lbs.

Completely automated testing of yarns and cords in the tensile range up to 50 lbs. is now said to be possible with the development of the Scotamatic by Scott Testers Inc., Providence, R. I. The new Scotamatic is said to operate completely unattached. Once the operator has introduced a sample of yarn or cord, the machine takes over, testing and recording throughout an entire bobbin or group of samples without any attention, the company reports. Recording and evaluation of test results are in three values: (1) stretch at a predetermined point of load; (2) ultimate tensile strength; and (3) ultimate elongation. The tabulator summarizes the individual values at the completion of each ten tests. Each value for each test is recorded individually as well as totalled for the ten.

(Request Item No. E-1)

Photoelectric Glossmeter



This Glossmeter has been developed by Hunter Associates to measure luster of yarns, fibers and finished fabrics.

A new photoelectric glossmeter has been designed by Hunter Associates, McLean, Va., for textile yarns, fibers and fabrics, etc. Accuracy is said to be assured by precise machine construction and assembly of all optical components. Adaptability of the instrument to both standard and new gloss tests is achieved by building elements of the incident and reflected light beams onto aluminum blocks which are mountable at either 75°, 60°, 45° or 20°. Because of the ease with which beam and field angles can be changed, the instrument is ideally suited for special gloss tests of new products.

For textiles, the new instrument will measure contrast gloss (called luster) of yarn, fibers and finished fabrics. The optical and electrical units are in separate housings connected by cable. The instrument can be used:

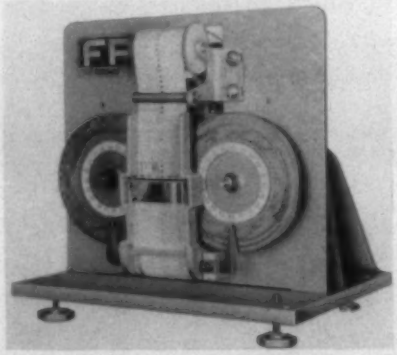
(1) With specimen on front

(2) Turned on its back with specimen mounted horizontally on top or

(3) With optical unit separate and mounted either flush in a table top for examination of large sheets or over a moving web for gloss recording. For high precision, a digital dial is used in the measurement arm of a null-balance bridge. This digital dial is operated either manually or by servo-motor.

(Request Item No. E-2)

Analog-To-Digital Recorder



Fischer & Porter Co. has announced the availability of this Analog-To-Digital recorder that records analog values in binary-decimal punched tape form.

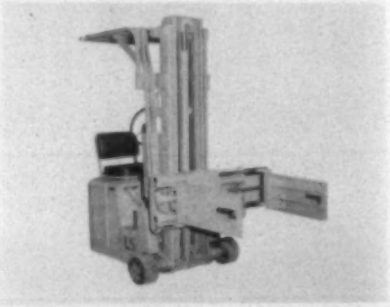
Fischer & Porter Co., Hatboro, Pa., has developed a shaft-input Analog-To-Digital Recorder (ADR) that records analog values in binary-decimal punched tape form. The tape can be read directly, or translated automatically into standard punched cards or tape for computer processing. In addition to supplying a digital punched tape record, the ADR simultaneously supplies the digital information in the form of electrical contacts that may be used for telemetering.

Input torque requirements are said to be so low that usually the measured variable itself can be used to drive the shaft directly. Where available torque is insufficient, or the signal is in electrical form, the ADR can be used with a servo system to record flow, pressure, temperature and other analog values. The ADR can also be used with a solenoid and ratchet wheel to count pulses during any given time period as in production counting.

The unit may be operated from commercial power supplies, or by battery. A single 6-volt dry cell battery will power the ADR on 15-minute readout interval for an entire year, the company reports.

(Request Item No. E-3)

Bale Handling Truck



Lewis-Shepard's Model J electric fork truck equipped with load grab and bale grab arms is used very effectively where floor loading capacities and maneuvering is a major problem.

A new load grab with bale grab arms is offered by Lewis-Shepard Products Inc., Watertown, Mass. The manufacturer describes the unit as the perfect truck for the small warehouse or light duty bale handling operation. The minimum over-all truck weight and excellent maneuverability offered by this Model J Cascade bale clamp are said to make it suited for operations in old style textile warehouses where floor loading capacities and maneuvering space often pose major problems. The bale grab arms are quickly detachable and can be quite easily interchanged with a wide variety of Cascade arms, thus making it possible to handle many different types of loads.

(Request Item No. E-4)

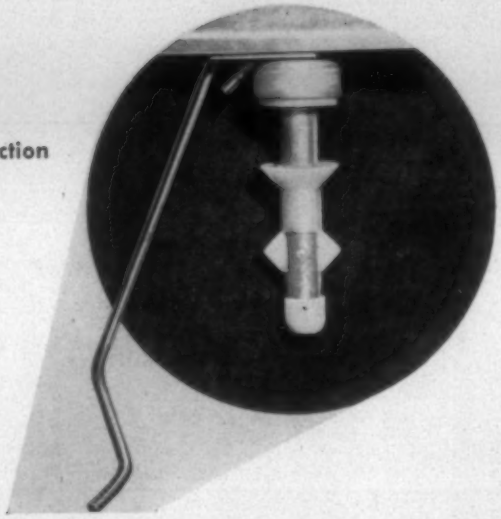
Leno Doup Heddle

Steel Heddle Mfg. Co., Philadelphia, Pa., is introducing the Stehedco duplex doup heddle for leno weavers, a patented flat steel heddle that provides complete freedom of movement never before known. Even the friction usually caused by rubbing of the heddle between the standards is said to be greatly reduced by the welded construction perfected by Stehedco, which provides a positive opening for the needle.

The parallel legs of the standards, set freely between the spread legs of the needle, are said to completely eliminate the problem of resistance to the shedding movement, excessive wear, and skipping in the weave. Stehedco duplex doup heddles have

Roberts Bobbin Holder

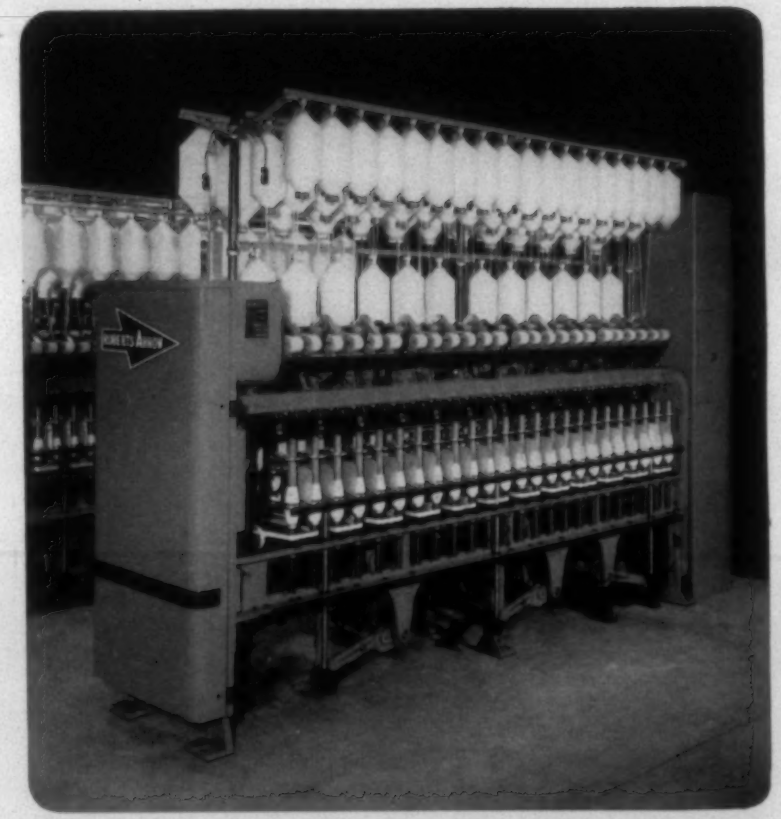
- Snaps off by hand for easy cleaning and inspection
- Retainer type ball bearing for uniform rotation
- Inside spring completely enclosed to keep lint out
- Automatic latching and bobbin release of simple sturdy construction
- Mounts easily on creel channel or on wood creel boards



A FEATURE OF

ROBERTS ARROW

ALSO AVAILABLE AS CHANGE-OVER MODERNIZATION ON ANY MAKE OF FRAME



Very Advanced

ARROW SPINNING features:

- PosiWate Top Roll Suspension
- UnaRing Balloon Control
- EvenGrip Fluted Bottom Rolls
- Roberts Supreme Ball Bearing Spindles
- Double-Apron High Draft System
- UnitVac Power-Suction Cleaning
- Roberts All-Ball-Bearing Head
- Unitized Sectional Frame
- AeroCreel with Latch-Type Bobbin Holders
- Flexibility For Cotton And Synthetics

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

FOR THE TEXTILE INDUSTRY'S USE—

been tested in a number of high production mills. The response from mills using these heddles indicates they are superior to the old style doup heddles in a number of ways, the company reports.

(Request Item No. E-5)

Cotton Spinning Package

Akron Spool & Mfg. Co. of High Point, N. C., has announced production of a new package to be used in cotton spinning that is said to effect a 35% labor-saving in doffing of slubber and roving bobbins. The company has named this new package a Spobbin—since it is said to be a cross between a spool and a bobbin. Without any change in existing equipment, other than the removal of the builder cam, the bobbin capacity can be increased 35% to 40%. John B. Hawley, inventor and president of Akron, states that the Spobbins have been in test for over a year at several mills, all reporting substantial savings in doffing time.

The new package is said to be extremely simple and light in weight. It is made by altering the mill's own bobbins by sliding a fibre spool-head over the barrel down against the base of a regular roving bobbin and then sliding a paper tube over the bobbin down against the base head and gluing into place. The fibre top head is then mounted on the top of the bobbin with screws holding the whole assembly together. With the cam-builders removed from the flyer frames and the paddles taken off the flyer arms, the yarn build on the resulting spools is a parallel build rather than the double-end bottle or conventional build used for years. The increased capacity amounts to about 35% in most cases, thus decreasing frequency of doffs. The Spobbins can be used with both umbrella type hangers or on skewers as desired. For the heavy-yarn makers who wish to pull their yarn over the top of the Spobbins a small head at the top is said to make this entirely feasible. The resulting Spobbin is so strong that it will stand extremely rough handling without any danger of breakage or dislocation of the Spobbin heads, the company reports. The company says it will provide samples to mills sending one or more of their slubber bobbins and advising the largest diameter heads that can be used within their flyer frame arms.

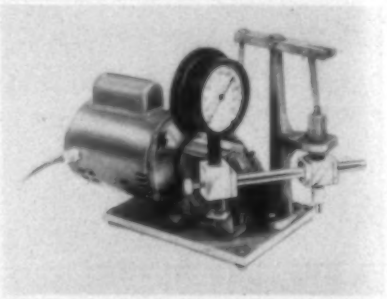
(Request Item No. E-6)

Electric Truck Charger

A completely automatic charger for electric industrial truck batteries, which rides around right on the battery itself, has been introduced by Exide Industrial Division of The Electric Storage Battery Co., Philadelphia, Pa. The silicon-rectifier device, with a transistorized control unit, need only be plugged into a handy 115-volt, a.c. wall outlet to charge the battery right in the truck. No further attention or additional equipment is said to be needed.

Automatically and precisely maintaining the proper charge rate from the beginning of the cycle, the new charger, designated Exide Power Mount, is said to provide the first fully automatic taper-rate charging system in rectifier-type equipment; to save on space, labor and downtime; to keep batteries performing at peak capabality; to assure longer battery life; and to minimize battery maintenance. The unit is designed for use in one-shift operations with six-cell batteries—the size used widely for electric hand trucks. Exide Power Mounts come in three single-circuit models, for batteries with capacities of up to 360, 450 or 660 ampere-hours. (Request Item No. E-7)

Laboratory Homogenizer



This new miniature homogenizer is being offered by C. W. Logeman Co. for laboratory work and small batches.

The C. W. Logeman Co., Brooklyn, N. Y., has developed a miniature laboratory homogenizer for use with short runs or small test batches. The unit, which is said to give identical results to those obtained on large production homogenizers, processes samples from 30 cc.'s to eight gallons an hour. It operates at a pressure range of 100-3,000 p.s.i. The advanced design of the homogenizer is said to eliminate the need for packing or stuffing boxes. The unit is 16" high with width measurements of 10" x 25". Weight is 80 lbs.

(Request Item No. E-8)

V-Belt Drives

A new line of V-belt drives, featuring smaller and lighter sheaves and V-belts of higher capacity at substantially lower cost has been developed by Dodge Mfg. Corp., Mishawaka, Ind. Introduced under the trade name Dyna-V, the new line of drives covers the complete range of horsepower capacities available in conventional drives. Savings in space, weight and cost are made possible by scientific advances in developing stronger metals for sheaves, and synthetic rubbers and fibers for belts, the company reports.

With the new Dyna-V line, the majority of industrial drives can be handled with belts only 3/8" wide, and sheaves that are greatly reduced in both width and outside diameter. These new drives are said to offer the design engineer opportunities for saving space and cutting costs in power transmission. Smaller and lighter sheaves are also said to prolong bearing life.

Dyna-V drives are being offered in two standard groove sizes to meet all except the largest industrial requirements. Besides the 3/8" (normal top width) size, known

as 3V, the company is manufacturing a 5V, or ⅝" size for higher horsepowers. Sheaves in the 3V series, from 1 to 10 grooves, are designed for drives ranging from 1 to 50 h.p. The 5V series will include sheaves to take from 3 to 10 of the ⅝" belts, and will handle drives up to 200 h.p. There is also an 8V series of made-to-order Dyna-V sheaves and 1" belts for requirements ranging up to 1,500 h.p.

Taper-Lock bushings for quick and secure mounting on shafts will be an important feature of Dodge Dyna-V sheaves. They are said to contribute to clean and efficient design, and have become a widely accepted means for interchangeability mounting of wheels on shafts. Dyna-V belts, besides being smaller in cross section, lighter in weight and stronger, are said to be exceptionally immune to stretching. This solves the problem of matching belts for uniform tension. The new belts are designed with a crowned top and concave sidewalls for maximum efficiency. They will have all the premium qualities, being oil and heat resistant and static conducting.

(Request Item No. E-9)

Fiber Lubricant

Commercial availability of a new antistatic, water soluble fiber lubricant, Twitchell 7440, has been announced by Emery Industries of Cincinnati, Ohio. Twitchell 7440 lubricant provides an unusually high degree of static control and effective lubrication for all natural and synthetic fibers at relatively low per cent applications. It has been approved by the Wool Associates of New York Cotton Exchange Inc. in that wool tops combed with this oil are acceptable for certification and delivery on the exchange.

Other features of Twitchell 7440 Lubricant are its ease of removal through normal scouring procedures, resistance to yellowing, light and storage stability. These features are said to make it an advantageous fiber lubricant for all fibers and blends where static is encountered. Specifically, this includes high speed wool and worsted processing, blends of wools and synthetics, and blends of cotton and synthetics. The static control of Twitchell 7440 is effective on all the common synthetic fibers including nylon, polyesters and acrylics. Technical Bulletin No. 414 describing Twitchell 7440 is available. (Request Item No. E-10)

Dope Dyed Dynel

Dynel acrylic fiber is now available in four new dope dyed colors, a factor that is expected by Union Carbide Chemicals Co., the manufacturer, to accelerate the acceptance of deep pile women's coats as a high fashion item. The new "spun with color" hues are expected to pave the way for style innovations in other apparel markets. The significance of the new colors is said to lie in the fact that they enhance the appeal of deep pile outergarments by providing them with other than "fur look" shades. Now more imaginative styling ideas are possible, says the company, such as those developed by cloth coat designers.

The new hues, green, marine blue, pewter

and caramel, bring to 11 the number of Dynel dope dyed colors on the market. Shades previously introduced are white, black, brown, blonde, charcoal, grey and natural.

A fabric is considered dope dyed when its fibers obtain color prior to completion of their manufacturing process, stock dyed when the fibers gain their hue after production, and piece dyed when the dyeing is applied to the finished knitted or woven fabric. A dope dyed fabric has the advantage of uniformity of shade, combined with superior color and light fastness.

As the new colored fibers are being produced in both standard and high shrinkage deniers, interesting high fashion concepts in both one and two height pile effects will be possible. Dope dyed colored fibers are labeled Dynel 80 in the standard denier and Dynel 83 is the high shrink denier.

(Request Item No. E-11)

Monofilament Rayon

Industrial Rayon Corp., Cleveland, Ohio, has announced its development of Strawn, a new flat, strawlike monofilament rayon yarn especially suited for use in the manufacture of upholstery and drapery fabrics. The new yarn is said to have an unusual cross section and distinctive luster.

"There is no other yarn currently being produced which can achieve styling results comparable to Strawn," according to George C. Miller, sales manager of the company's rayon textile yarn division. "Strawn provides unique optical effects whether used by itself or combined with either natural or other man-made fibers."

A product of Industrial Rayon's continuous process, Strawn is said to have outstanding ease and uniformity of dyeing and to give equally good results whether piece dyed or yarn dyed. Exciting colors can be obtained by cross dyeing with other yarns, it was stated. Already scheduled for use in automobile upholstery, Strawn is said to have demonstrated exceptional durability in prolonged and intensive tests covering a wide range of fabrics.

The yarn is being commercially produced in 450 and 1250 deniers in both bright and dull lusters. It is available in skeins or packaged on cones or spools.

(Request Item No. E-12)

Sizing Equipment

High-speed operation and effective drying combine with economy in size and consumption in the new range of sizing equipment recently introduced by Joseph Hibbert & Co. Ltd., Darwen, England. Automatic speed control maintains the desired moisture content of the warp without the need for manual adjustment from the operator, the company reports. Suitable for all classes of spun and filament yarns, the machine features a new type headstock with mechanical drive, either multi-can or hot air drying as required, and the alternative of a single or double roller size applicator or the latest version of the Shirley size box.

Predetermined tension throughout the buildup of the beam is said to be insured by the new mechanical headstock which contains no electrical control gear, although standard friction and electrical drives are offered as alternatives. A hydraulic speed gear unit facilitates controlled acceleration and deceleration to allow for minimum yarn tension and reduced warp stretch; the unit controls the running speed of the machine within a speed range up to 120 y.p.m. The beam winding motion incorporates a variable speed gear fitted with a sensitive tension measuring device and a torque multiplier. This enables uniform tension to be attained throughout the build, irrespective of the speed of operation.

A feature of the headstock drive is that in double beaming it is possible to wind two beams with different yarn densities simultaneously. Beams of different empty barrel diameters can also be wound together provided that the ratio of empty to full diameters does not exceed 1:5.5, which the drive allows.

The improved Hibbert hydraulic press fitted in the headstock is said to enable the press to be used as a semi-automatic doffing device, particularly important when handling large beams. The electric yardage counting and marking device is of a completely new type.

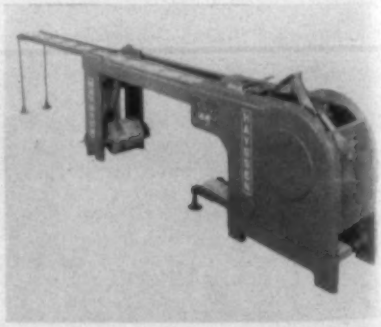
Either a contact or positive chain drive to the cans is arranged in the multi-can dryer unit. Where the cans are positively driven, yarn tension control is said to be insured, providing uniform yard speed and stretch during drying. For units requiring exceptionally fine control, individual temperature control to each can is available.

As an alternative to the cans, the Hibbert hot air drying chamber is available. The advantages claimed for this system are low power and steam consumption, temperature control by thermostat, low air velocity and minimum yarn tension.

A variety of runs to meet the requirements of different types of yarn is possible by the yarn support roller arrangement. To prevent size build-up and yarn lappers the first rollers are covered with Teflon which prevents size adhesion.

(Request Item No. E-13)

Packaging Equipment



Hayssen Mfg. Co.'s new RT packaging machine is designed to provide automatic packaging on non-uniform goods that are regularly machine wrapped with support.

The Hayssen Mfg. Co., Sheboygan, Wisc., has recently introduced the new RT Packaging Machine which is designed to

provide automatic packaging of non-uniform goods that are regularly machine wrapped with support. A unique new method of forming the package independent of the item being wrapped permits the use of the machine for products of various sizes. Any heat sealing material may be used.

As the material is pulled toward the back sealer, the film is folded over the product. It passes under a back sealing iron. Height of the package is adjusted with a finger wheel that raises or lowers the back sealing bars. After completing the back sealing operation, the product moves on to the end sealing bars which are positioned on a constantly rotating drum. The jaws seal the bottom of the first package and top of the second package in one operation. The package is held in the sealing jaws and follows the drum to the discharge conveyor where it is released. The product never comes in contact with machine parts.

Upon completing the sealing cycle, the jaws accumulate in an open position along the rotating drum. Each set of jaws waits for its turn to resume its sealing operation. The drum slips by the resting jaws.

Upon a signal from the electric eye control or the mechanical timing device, a set of sealing jaws is released. As the drum moves, the upper jaw is cammed down over the lower jaw sealing and cutting at the same time. The electric eye length registration can be used with a printed target on the wrapping material or on the product itself thus giving the operator the advantage of using the same machine for various size products.

Two types of sealing heads are available. Resistance type heaters are used for regular heat sealing material while an impulse sealing method is used for unsupported polyethylene and other plastic material. Width adjustment is made by changing width of the roll material. (Request Item No. E-14)

Heavy Duty Sweeper

A new heavy duty vacuum-equipped sweeper has been introduced by the G. H. Tennant Co., Minneapolis, Minn. Equipped with a 24-volt, 365 amp. hour battery, the new sweeper (Model 80-E) reportedly sweeps eight hours on a single battery charge. Traveling at speeds up to 4.5 m.p.h., the machine has a maximum cleaning path of 53", including side brush (for flush-with-wall sweeping). Cylindrical main brush is 42" wide.

An important feature is use of two 1 h.p. d.c. motors (one for propelling, one for sweeping) in combination with an interbalanced brush-and-vacuum system. Since brush speed and vacuum suction are constant, the machine can travel slowly in congested areas with no loss in sweeping efficiency or dust control.

Revolving brush tosses heavy dirt directly forward into a 12 cu. ft. hopper. This "floating type" hopper lifts automatically to accommodate bulky debris and allows non-stop pickup of fine dust and heavy debris in one operation. At the same time, a high volume vacuum fan sucks up turbulent dust, forcing the dirt-laden airstream through a 4,200 sq. in. fabric dust filter. It is claimed that loads up to 800 lbs. can

be dumped hydraulically in about 10 seconds.

Typical features: foot pedal controls for forward-reverse and brake; front wheel drive through ⅝" roller chains; 65" turning radius; automotive cam-and-lever steering; three speeds forward, three speeds reverse; 24 volt, 1 h.p. motors for travel and for sweeping; five minute brush change.

(Request Iitem No. E-15)

Electrostatic Locator

The Simco Co., Lansdale, Pa., has developed the Electrostatic Locator, Type E, for detecting electrostatic charges and electrostatic induction, which can constitute a serious fire and explosion hazard and is said to frequently introduce production difficulties by causing erratic behavior of certain materials during processing. This new unit is designed to locate and determine the relative intensity of such charges so that remedial steps can be taken. In use the operator simply points the probe of the unit toward the charged object and the meter indicates the polarity and relative magnitude of the charge from —10 to +10. Simco points out that the absolute measurement of electrostatic charges requires a number of complicated calculations requiring skilled technical personnel, whereas the Type E locator can be operated by unskilled personnel. The locator weighs less than three pounds and contains its own source of power. The power is supplied by a standard flashlight battery, requiring replacement every six months, and two standard 4½ volt dry cell batteries, requiring replacement once a year.

(Request Item No. E-16)

Adhesive-Finished Rayon

Development of a new adhesive-finished high tenacity rayon yarn for reinforcing mechanical rubber goods has been announced by the Du Pont Co. The new yarn, identified as Super Cordura Type 272-F high tenacity rayon yarn, offers important advantages in processing, performance and economies, according to the producer.

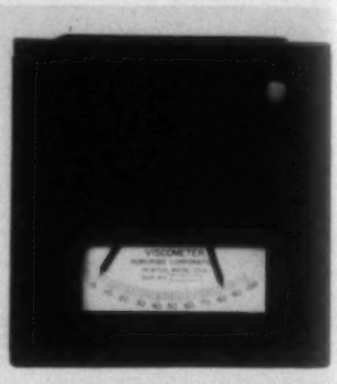
Said to be the first successful adhesive-finished rayon yarn, Super Cordura Type 272-F, can be processed on conventional industrial weaving equipment. The new product is said to embody the advantages of adhesion without the necessity for fabric dipping; it thereby reduces cost of processing, decreases inventory requirement and eliminates need for adhesive-dipped fabrics with short shelf life.

Closer control of fabric construction is said to be possible through elemination of the shrinkage which can occur in conventional fabric dipping. In trade testing, Type 272-F has given adhesion values greater than 20 pounds per inch in many types of rubber stocks, including GR-S, GR-N, and natural, thereby comparing favorably with values for cotton and resorcinol-formaldehyde (RFL) treated rayon.

Another important property of Super Cordura rayon is its claimed 40% greater retention of adhesion when wet as compared with conventional RFL-dipped rayon. The new yarn is also said to exhibit higher yarn friction, with consequent improved package stability for quill winding, and more stable fabric for easier calendering. The product has good shelf life, with no change in adhesion reported following 10 months' storage, according to the company.

(Request Item No. E-17)

Viscosity Indicator



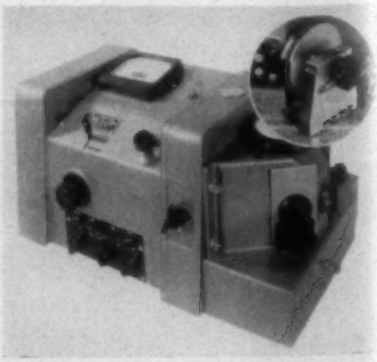
The Norcross Corp. has developed this new indicator and indicating controller for use where a permanent record is not required.

The Norcross Corp., Newton, Mass., has developed an indicator and indicating controller to provide viscosity control at a lower cost for application where a permanent record is not required.

These new models are for use with the company's basic measuring elements which operate on the principle of measuring the time required for a piston to fall a given distance through the solution to be measured. The indicator and indicating controller can be located any reasonable distance from the measuring element and can be furnished with high or low viscosity alarms.

(Request Item No. E-18)

Sample Holder For Colorimeter



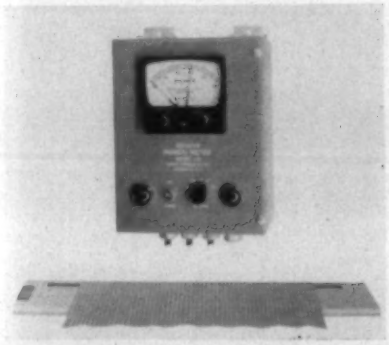
Development Laboratories Inc. of Attlebor Mass., has introduced a new sample holde for its colorimeter designed to measure re flectance from fabrics such as corduroy gabardines and worsteds.

A new "spinner-type" sample holder fo its Color-Eye optical colorimeter which i said to make it possible to measure th

reflectance of colored samples of such fabrics as corduroy, gabardines, tricot knit fabrics and worsteds with directional weave, has been developed by Instrument Development Laboratories Inc., Attleboro, Mass. It is also possible to measure the color of threads, yarns and synthetic fibers wound on cards. The new sample holder is a manually spun flywheel with concentric retaining rings for mounting samples. Other methods of mounting samples are also available. Until this special spinner-type sample holder was developed, it was generally impractical to completely evaluate or measure color on fabrics which display a highly directional surface, according to the company. The new sample holder enables the instrument to view an averaged and reasonably uniform reflectance surface. Interchangeable with standard sample holders, this new unit is said to provide greater flexibility and a wider range of applications for Color-Eye, the dual purpose colorimeter and abridged spectrophotometer.

(Request Item No. E-19)

Cloth Width Measurement



Matrix Control Co., Somerville, N. J., has developed this Margin Meter to provide continuous cloth width measurement.

Continuous cloth width measurement is said to be possible with the newly developed Margin Meter by Matrix Control Co., Somerville, N. J. Pointers on the unit are set at tolerance limits. If the cloth width should vary beyond either one a red warning light flashes. Allowance for the selvedge is made automatically by setting the pointer knob for the proper value. The meter may be placed as far away from the machine as necessary. Current requirement is 115 volts a.c. (Request Item No. E-20)

Dyeing Glass Cloth

Union Carbide Corp.'s silicones division has announced the introduction of Silrama, a new process for dyeing glass cloth. Bringing a number of new and brilliant colors and deep shades to the fast growing decorative glass fabric industry, Union Carbide's new process is said to permit the use of 14 different classes of dyes, and makes possible, in presently used Coronizing lines, the production of fabrics with a whole host of new colors. The new process promises to broaden design horizons in the decorative glass fiber field.

Utilizing the tenacious affinity of the new organo-functional silicones for glass and the chemically reactive nature of the pendant groups of these new chemical molecules, Union Carbide's Silrama process is said to be especially suitable for dyeing with pigments and vat colors.

Gagliardi Research Corp. of East Greenwich, R. I., Union Carbide's consultant in this development, reports successful application of such water-soluble dyes as vats, vat esters, vat acids, acid wools, sulfurs, directs, naphthols, direct and developed dyes, pre-metallized acids and neutrals, and the new reactive dyes. Similar results have also been obtained with water-dispersible pigments of both the organic and inorganic types. Previously glass fabric dyeing was limited to the use of selected pigments. Preliminary tests of new deep shades obtained with the new process are said to show improvements in alternate light and wash fastness. Solvent resistance is an additional advantage. This new development makes possible a vastly expanded color line of glass fabrics maintaining fabric properties that meet the standards developed for the industry by Owens-Corning Fiberglas Corp. and the glass fabric weavers.

The Silrama process is now available for licensing. Union Carbide's silicones division reports that it expects to see the major glass weavers ready for production by early Fall. Additional developments should make limited production possible by this time.

(Request Item No. E-21)

For the Mill Bookshelf

Loom Cleaner

Parks-Cramer Co., Fitchburg, Mass., is making available Bulletin 145 describing its Oscillaire loom cleaning units. Oscillaire loom cleaning is said to be applicable to a wide variety of looms, products and mill conditions. It delivers air currents onto arch, harnesses, harness motions, drop wires, stop motions, transfer motions, lay, shuttle boxes, beam, yarns and fabric. It is said to prevent objectionable lint accumulations between warp-outs; to eliminate most hand cleaning by compressed air; to lessen loom stops; and to increase production. The company also says the unit reduces woven-in lint, oil spots, set and start-up marks, skips, floats and pick-outs.

(Request Item No. E-22)

Spinning Changeovers

Dixon Corp. of Bristol, R. I., is now offering Volume 5, No. 1 of "Dixon Data," containing information on both double apron Roth and Casablancas changeovers, said to be an advanced method of obtaining completely oil-free and capbar-free top roll guiding for cotton spinning. This volume includes detailed drawings illustrating construction features of Dixon front, middle and back rolls. (Request Item No. E-23)

Totally Enclosed Motor

A new 8-page bulletin describes General Electric's new Thinline motor, rated from 1 to 5 h.p. in drip-proof, and totally-enclosed constructions for limited space applications such as machine tools, fans and blowers. The illustrated publication includes description of product features, a chart of interchangeable flange dimensions and data on both drip-proof and enclosed models. (Request Item No. E-24)

Clutch-Pulley Package

Warner Electric Brake & Clutch Co., Beloit, Wisc., is offering a new brochure on its Electro-Sheave. This complete, 10-page booklet describes in detail Warner's new clutch-pulley package for direct installation on standard electric motors from 1 to 25 h.p. Included are sections on description, operation, dimensions and selection. (Request Item No. E-25)

Water Treatment Equipment

A new bulletin describing its complete line of water treatment equipment has been issued by Process Engineers Inc., division of The Eimco Corp., San Mateo, Calif. Bulletin SH-1013 features the Reactor-Clarifier, an Eimco-Process development which combines coagulation and flocculation, sedimentation and sludge removal in a single unit. Both standard rate and high rate types are shown. They include features for improved sludge thickening and provisions for uniform and more efficient influent distribution.

Also illustrated and described are Eimco-Process flash mixers and contactors, clarifiers and flocculation mechanisms, an automatic enclosed rapid sand gravity filter system, an eductor type proportioning liquid chemical feeder and other water treatment and conditioning equipment.

(Request Item No. E-26)

Caster Catalog

A new condensed catalog of casters for industry is available from Faultless Caster Corp., Evansville, Ind. Designated as Catalog No. 159, the new 24-page publication contains illustrations, descriptions and specifications of swivel-plate and rigid-plate truck casters with load capacities ranging from 100 to 15,000 lbs. each. Several series of casters are being shown in this catalog for the first time.

The catalog also includes detailed information on Faultless spring-action casters, V-grooved casters, grease-sealed casters, scaffold casters, floor truck locks, industrial wheels in a wide choice of treads, and furniture casters, sockets and glides.

(Request Item No. E-27)

Steam Traps

Ross Midwest Fulton, Dayton, Ohio has announced the publication of Bulletin T-300 on Ross-Miami steam traps. The new 4-page bulletin discusses typical applications, capacities and construction of Ross-Miami steam traps for use in various industrial applications including textile mills.

The bulletin includes tables on capacities, orifice sizes, parts and seat pressures. Diagrams show construction of the steam traps, parts and the Type B Integral By-Pass, an exclusive feature of the Ross-Miami steam trap which allows all non-condensible gases to vent continuously from inlet to outlet.

(Request Item No. E-28)

Packaging Guide

Helpful information on the selection of the proper corrugated packaging for a new or existing product is detailed in the revised edition of "How To Pack It," published by Hinde & Dauch, Sandusky, Ohio. The 32-page, fully-illustrated book contains two sections: one devoted to basic corrugated box designs, the other to special designs.

The first section on basic designs provides a starting point in determining which box style—with or without minor variations—is best suited for individual products. Such styles as the regular slotted box, telescope box, and five-panel folder are described and illustrated. The second section on special corrugated box designs illustrates and details 56 box designs developed in response to specialized product and marketing requirements.

(Request Item No. E-29)

Anti-Static Fiber Lubricant

Technical Bulletin No. 414, describing a new water soluble, anti-static fiber lubricant, Twitchell 7440, is available from Emery Industries Inc. Formerly designated as Emery 3198-S in development stages, Twitchell 7440 lubricant is said to provide an unusually high degree of static control and effective lubrication for all natural and synthetic fibers. It has recently been approved by the Wool Associates of the New York Cotton Exchange Inc. for wool tops.

The bulletin contains data on static control, scourability, resistance to yellowing, and light and storage stability. Recommended usage encompasses all fibers and processes where static control is advantageous. This includes all natural fibers and the synthetics represented by nylons, polyesters and acrylics. (Request Item No. E-30)

Sight Flow Indicators

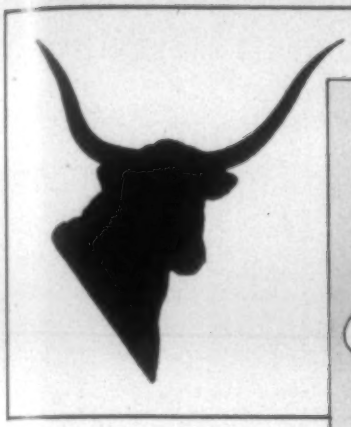
A new bulletin detailing information on its line of sight flow indicators and drip sight feeder has been published by Jerguson Gage & Valve Co., Burlington, Mass. New Catalog Data Unit No. 350 provides information on the range of sizes, materials, pressure-temperature ratings and dimensional specifications for the company's line of reflex and transparent sight flow indicators which can be installed on new or existing pipe lines. Also included are specifications on Jerguson's new high pressure drip sight feeder for low or high temperature applications. (Request Item No. E-31)

Electric Truck Data

The claimed ability of lead-battery-powered trucks to get 20 to 30% more work done than equivalent trucks with other power sources is documented graphically in a newly published bulletin currently offered by the Exide Industrial Division of The Electric Storage Battery Co., Philadelphia, Pa. (Request Item No. E-32)

Textile Standards

The American Society for Testing Materials has announced the availability of Part 10 of its standards dealing with textiles. Part 10 includes standards relating to cotton, rayon, wool, felt, glass fabrics, bast and leaf fibers. It contains 1,524 pages and is available at a cost of $12 from The American Society for Testing Materials, 1916 Race St., Philadelphia, Pa.



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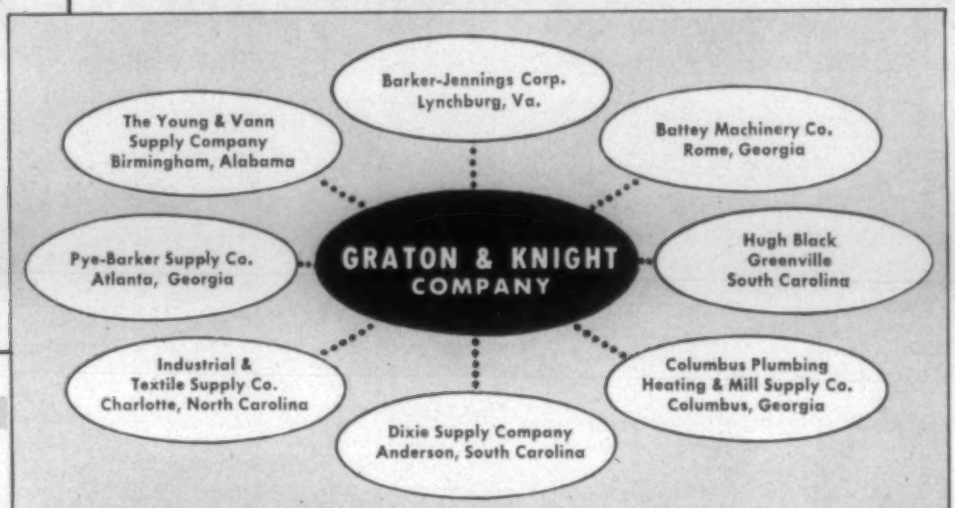

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Serving The Textile Industry

Dayton Rubber Co. Opens New Atlanta Warehouse

The Dayton Rubber Co. has formally opened a new regional warehouse and sales outlet in Atlanta, Ga. Located at 1040 Boulevard, S.E., the modern structure is the newest link in the company's growing chain of sales and distribution outlets in key market areas.

The new facilities will service the company's industrial division. Robert G. Burson, vice-president of the company's industrial products division, said the new Atlanta operation ties in with Dayton Rubber's long range program to provide better customer service and distribution.

Whitin Machine Works Reports $1.8 Million Loss

Whitin Machine Works, Whitinsville, Mass., has reported a net loss of $1,885,794 or $2.64 per share in its consolidated operations for 1958 as compared with a profit of $870,890 or $1.22 per share in 1957. During the year the firm paid cash dividends of 75 cents per share, which amounted to $536,256. It was further pointed out that quick assets increased $951,774 over 1957. Correspondingly, the current ratio was increased from $4.01 in 1957 to $4.80.

Net sales declined from $42,708,000 in 1957 to $31,662,000 in 1958. This reduction was entirely due to the drop in sales of textile machinery. Non-textile sales increased and are reported to be continuing the upward trend.

Whitin bought the Landis Machine Co. of St. Louis, Mo., through its subsidiary, Fayscott Corp., during the year. The companies have been merged into Fayscott Landis Machine Corp. of Dexter, Me. It was reported that Whitin's recent purchase of the assets of American Type Founders of Elizabeth, N. J., will materially add to Whitin's profit and is in line with the policy of additional diversification.

Electro-Motion Corp. To Serve Cleveland Gear, Farval

The Electro-Motion Corp., Charlotte, N. C., has been appointed to serve as representative in the two Carolinas for The Cleveland Worm & Gear Co. and The Farval Corp., both of Cleveland, Ohio. The Cleveland Worm & Gear Co. has two divisions; one makes speed reducers and the other makes variable speed drives. The company has been building worm gear drives since 1912. Speed reducer ratios built by the company are from 3 1/7 to 1 up to 10,000 to 1. The speed variator division of the company builds a drive unit which provides infinitely variable output speed over a range up to 9 to 1 from a constant speed power source. The drive employs the rolling action of a series of balls, rather than belts, to permit the adjustment of the output speed while operating under load.

Centralized lubrication systems made by The Farval Corp. provide a positive mechanical method of dispensing oil or grease under pressure to a group of bearings from one central station. Measured quantities of lubricant can be delivered as often as desired. Each system includes a central pumping unit located at a safe and easily accessible point, two main supply lines, a measuring valve for each bearing, and the lines which connect the valves to the bearings.

Nopco Chemical Co. Acquires Stock Of Jacques Wolf & Co.

Ralph Wechsler, president of Nopco Chemical Co., Newark, N. J., has announced that Nopco has acquired all the capital stock of Jacques Wolf & Co., Clifton, N. J., in a cash transaction. The purchase price of more than $3,000,000 did not exceed the net worth of Jacques Wolf at the time of purchase. Wolf's annual volume of sales has been between five and six million dollars for the past five years.

Nopco will operate Jacques Wolf as a wholly-owned subsidiary, retaining its present staff and sales force. G. J. Desmond and Arnold Pfister, Wolf officers, will continue to serve in their present capacities, while G. Daniel Davis, Nopco executive vice-president, becomes president of Jacques Wolf.

Hughes Fawcett Co. Names Ralph Gossett & Co. Agent

Hughes Fawcett Inc. has announced the appointment of Ralph Gossett & Co. of Greenville, S. C., as its agent in the Southern states for the handling of its linen yarns for manufacturing various textile fabrics. The Hughes Fawcett account will come under the yarn sales division of Gossett and will be handled by the various salesmen covering the Southeast.

Dunson & New Named Agent For Hartford-Greenville

The Hartford-Greenville Division of Standard Screw Co., Greenville, S. C., has announced the appointment of Dunson & New as its exclusive sales agents. Hartford-Greenville, manufacturer of Hartford spindles, bobbin holders and other textile machine parts, has for many years maintained its own sales force. Under the new program Dunson & New will absorb the present Hartford force thus increasing the number of men in the field not only on Hartford products but those of Dixon Corp. and others now handled by Dunson & New. In announcing the change A. R. Andrews, general manager of Hartford-Greenville, said that it has been contemplated for some time and is designed to increase sales coverage.

Celanese Corp. Reports Increased Earnings And Sales

Celanese Corp. of America, New York City, and domestic subsidiary companies, have reported net income of $4,895,879 or 64 cents per share of common stock, for the three months ended March 31, 1959. First quarter earnings were 95% above the net income of $2,509,710, equivalent to 23 cents per share, reported by Celanese for the first quarter of 1958.

The company's net sales for the first three months of 1959 represented a 20% increase over the 1958 first quarter, amounting to $58,890,158 compared with $48,964,912 for the first three months of last year. In the quarterly report to stockholders, Harold Blancke, president, said that very significant progress is being made in the development of new uses and markets for the company's products, particularly in the field of chemicals.

U. S. Bobbin & Shuttle Co. Loses Less Money In 1958

U. S. Bobbin & Shuttle Co., controlled by Baker Industries Inc., Newark, N. J., reports a net loss from operations of $168,818 for the year ended December 31. The loss figure does not take into account a net special charge of $225,412. In 1957 the company's loss was $315,377. The special charge arose out of the sale or other disposal of the Lawrence, Mass., plant and equipment.

National Starch Products Splits Stock, Changes Name

Shareholders of National Starch Products Inc. have approved a two-for-one stock split and a change in the company's name to National Starch & Chemical Corp. Both actions became effective May 8. Frank K. Greenwall, chairman of the firm's board, explained that under the stock split the presently outstanding 981,572 shares of $1.00 par value will become 1,963,144 shares of 50 cents par value. The presently authorized 2,000,000 shares of common stock with a par value of $1.00 per share will be doubled to 4,000,000 shares with a par value of 50 cents each.

The board of directors declared a regular quarterly dividend of 15 cents a share, payable May 20, on the larger number of shares outstanding as a result of the split. In February 1959, quarterly dividends were raised from 25 cents to 30 cents on the shares then outstanding.

Greenwall said that the change in corporate name to National Starch & Chemical Corp. reflects the increased importance of

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1926 "IF IT'S PAPER" 1959

chemicals and chemical processes in the company's business resulting from the firm's research and development work. He said that National Starch & Chemical Corp. today is one of the two largest producers of vinyl acetate polymers and copolymers in emulsion form for the textile industry.

Herbert Morris Ltd. To Work With American MonoRail Co.

A program of expansion into the world's industrial markets by American MonoRail Co., Cleveland, Ohio, and Herbert Morris Ltd. of Loughborough, England, has been launched. In Cleveland recently to complete arrangements with American MonoRail officials was Eric Russell, sales director of Morris—one of the world's largest manufacturers of cranes with plants in Australia, South Africa and Niagara Falls, Canada, as well as England.

Morris recently purchased British MonoRail Ltd. of Brighouse, Yorkshire, England in which American MonoRail had an interest. Through new arrangements, Morris signed licensing agreements with American MonoRail. British MonoRail, operating as a subsidiary of Morris, will manufacture materials handling equipment, including overhead monorail and monorail crane equipment, automatic cleaning units for the textile industry, and will offer materials handling engineering.

Saco-Lowell Reports Loss Of $1 Million

Saco-Lowell Shops, Boston, Mass., incurred a net loss of $1,147,774 for the first quarter ended February 28, according to preliminary, unaudited figures. The deficit was said to be occasioned primarily by heavy starting up costs at the new plant in Easley, S. C. The company purchased all the outstanding stock of Servo-Dynamics Corp., Somersworth, N. H., electronics firm, in the latter part of January in keeping with its announced plans for further diversification. The company reported that the textile backlog as of April 16 is 66% greater than six months ago.

Du Pont To Build Second Mylar Plant

A second plant for the manufacture of Mylar polyester film which will almost double the capacity for this industrial and packaging film, will be built near Florence, S. C., by the Du Pont Co. Cost of the new plant will be almost $20,000,000. Construction will begin in June on a site owned by the company about ten miles east of Florence with completion of the plant expected early in 1961. Operated by the company's film department, the plant will employ about 500 persons when production reaches capacity.

The Florence plant provides a second source of supply for Mylar convenient to Eastern markets. Commercial production of the film started at the company's Circleville, Ohio, plant in July 1954. Since that time production facilities at Circleville have been expanded and the latest major expansion is scheduled to come on stream early in 1960. Mylar is used widely in metallic yarns.

General Plastics Corp. Offers Teflon Coating

General Plastics Corp., specializing in Teflon coating, has issued a reminder to the textile industry that Teflon coating or re-coating can be done during the vacation period. The coating is said to provide valuable protection for dry cans, slasher cylinders, thermopanels, J boxes, die pans, idler rollers, valves and other equipment. General Plastics makes arrangements each Spring to concentrate on textile equipment during the industry-wide shut-down.

A. E. Staley Mfg. Co. Plans To Absorb U B S Chemical

The board of directors of the A. E. Staley Mfg. Co. of Decatur, Ill., has approved the merger of U B S Chemical Co. into Staley. The merger will be on the basis of the exchange of one share of common stock of Staley for each one and three-quarter shares of common stock of U B S. The preferred stock of U B S is to be retired prior to the merger. The management of both firms had previously approved the move.

The merger will require the issuance of approximately 102,000 shares of Staley common presently authorized but not outstanding. Consumption of the merger is contemplated for this Summer and is subject to approval of the stockholders of both companies and to completion of legal and other studies now under way.

Staley, manufacturer of starches, oils and chemicals, showed a net profit for the last fiscal year of $5,748,666. Total assets were listed at $86,788,040 on September 30, 1958. U B S showed a net profit of $176,722 for last year. Total assets were $2,454,411 on December 31, 1958.

Heyden Newport Chemical Announces Quarterly Dividends

Directors of Heyden Newport Chemical Corp., New York City, have voted the quarterly dividend of ten cents a share on the common stock. A quarterly dividend of 87½ cents a share on the 3½% cumulative preferred stock and a quarterly dividend of $1.09⅜ on the $4⅜ convertible preferred stock were also declared by the directors. All dividends are payable June 1, 1959 to holders of record May 15, 1959.

American Enka To Produce Less Rayon Yarn, More Tyrex

American Enka Corp., reflecting the company's confidence in the future of Tyrex tire yarn, has approved an expenditure designed to provide a further increase in production capacity for the new viscose tire yarn. The appropriation will be used to convert part of Enka's present rayon textile yarn operations to Tyrex, the company has disclosed. This comes on top of a 14% increase in Enka's industrial yarn spinning capacity since 1953. It is estimated the conversion will up Enka's Tyrex production in 1959 to 24% over tire yarn shipments in 1958, but will be at the expense of textile yarn.

Total demand for Tyrex tire yarn has exceeded the industry's productive capacity since the third quarter of 1958, in spite of a rapid increase in Tyrex tire yarn production in the past six months. The new tire cord, introduced to the consumer market last September, is said to have created a major impact in the automobile tire market, with 99% of 1959 models using tires of Tyrex tire cord as original equipment.

While the demand for Tyrex has enabled the company to up its capacity for industrial rayon yarns, Enka's rayon textile yarn capacity, company officials report, has experienced a decrease paralleling that of the industry. By further decreasing rayon textile yarn capacity, Enka continues in a trend that has seen its capacity in terms of spinning points reduced 35% over the past seven years, Enka officials report.

The Chemstrand Corp. Reports Improved Earnings

Consolidated net income for the Chemstrand Corp., New York City, for the first quarter of 1959 totaled $7,662,000, according to Edward A. O'Neal Jr., president. These results reflected a continuation of an improved earnings trend which started in the second quarter of 1958 and progressed to $6,636,000 for the final three months of that year. Sales on a consolidated basis for the first quarter were $54,134,000, compared with $53,673,000 for the preceding quarter. First quarter results in 1958 were abnormally low due to depressed business conditions during that period.

Enka Nylon Expansion Progressing On Schedule

Construction work involved in American Enka Corp.'s expansion of its nylon facilities, announced and put under way late last year, is reported to be progressing on schedule, with the new facilities expected to be in the production stage early next year, the company has announced.

The original appropriation for the project was approximately $7,500,000. However, funds budgeted for the expansion program have been increased by approximately $1,800,000, the company has disclosed. Approval of the additional funds came at the first-quarter meeting of the American Enka board of directors. The expansion is designed to round out American Enka's nylon product lines, giving it a full range of filament yarns from fine deniers to heavy deniers used in such products as home furnishings, cordage, carpeting and auto upholstery, as well as nylon staple.

E. F. Houghton & Co. Has New Southern Plant

E. F. Houghton & Co., Philadelphia, Pa., manufacturer of textile products and specialized lubricants, is now serving Southern industry through its warehouses and office

ne ly located in Carrollton, Ga. The new pl t is served by the Central of Georgia Ra road, as well as by truck lines covering th South.

pon completion of the installation of m ufacturing equipment, defoamers, wetting agents, detergents, warp sizes, finishes an lubricants will be produced locally. These new integrated sales, warehousing and manufacturing facilities represent the latest step in Houghton's expansion program to provide faster, more economical service to industry. In addition to the new Carrollton plant and the main plant in Philadelphia, Houghton operates plants in Chicago, Detroit, Minneapolis and San Francisco and in Toronto, Canada.

Minnesota Mining & Mfg. Reports Increased Earnings

First quarter sales of $102,361,998 and common stock earnings of $13,191,419 or 78 cents a share, have been reported by Minnesota Mining & Mfg. Co., St. Paul, Minn. For the same period of 1958 the company's sales were $85,207,362 with common stock earnings of $7,899,374 or 47 cents a share. First quarter 1957 sales were $89,475,428 with earnings of $9,692,-181 or 58 cents a share. The company reported that the first quarter 1959 results were the second best in its 57 year history, exceeded only by the fourth quarter of 1958, when sales were $104,926,615, and common stock earnings of $14,100,953.

Improved results for the first quarter compared with the same period a year ago was said to reflect a strong showing by a number of new products as well as a substantial increase in the over-all sales and continued progress in controlling costs.

General Aniline & Film Shows 84% Profit Increase

General Aniline & Film Corp., New York City, showed an 84% increase in profit in the first quarter of this year over the same period in 1958. This amounted to approximately $1,466,000 as compared to $797,000 in 1958. Sales for the period were $36,-834,000 as compared to $32,155,000 last year, an increase of $4,679,000 or 14½%.

John Hilldring, president, said, "There were increases in sales in all of our operating divisions with a substantial increase in the dyestuffs and chemical division and moderate gains in the Ansco and Ozalid Divisions." He attributed the profitable showing mainly to new products and their wide acceptance, more efficient operations, elimination of start-up expense in the company's new manufacturing facilities and the increase in sales. The company recently reported for 1958 all-time high record sales of $142,790,000 and net profit of $5,745,-000 compared to sales of $132,428,000 and a net profit of $5,385,000 for 1957.

Dow Chemical Co. Announces Beaming Program For Lurex

A new program to help customers obtain Lurex metallic yarns on beams has been announced by the Dow Chemical Co.'s textile fibers department, Williamsburg, Va. The program is said to enable mills to overcome low sley limitations of the cotton system slasher and to permit manufacture of top beams for Lurex for two-beam work where facilities are not available in the mill to do so. It also reduces the need to work with "skinny" spools in the mill. Customers may request shipment of the yarn to a commission warper of their choice or they may wish Dow to suggest a warper with whom it has worked on this program.

U.S.D.A. Offers Rot Proof Treatment For Cotton Fabrics

A practical method for producing cotton fabric with outstanding rot resistance and improved weather resistance has been announced by the U. S. Department of Agriculture. The improved properties, imparted to cotton through use of a new research-developed chemical treatment, promise to open up new markets for cotton in awnings, tents, tarpaulins, and other outdoor fabric items.

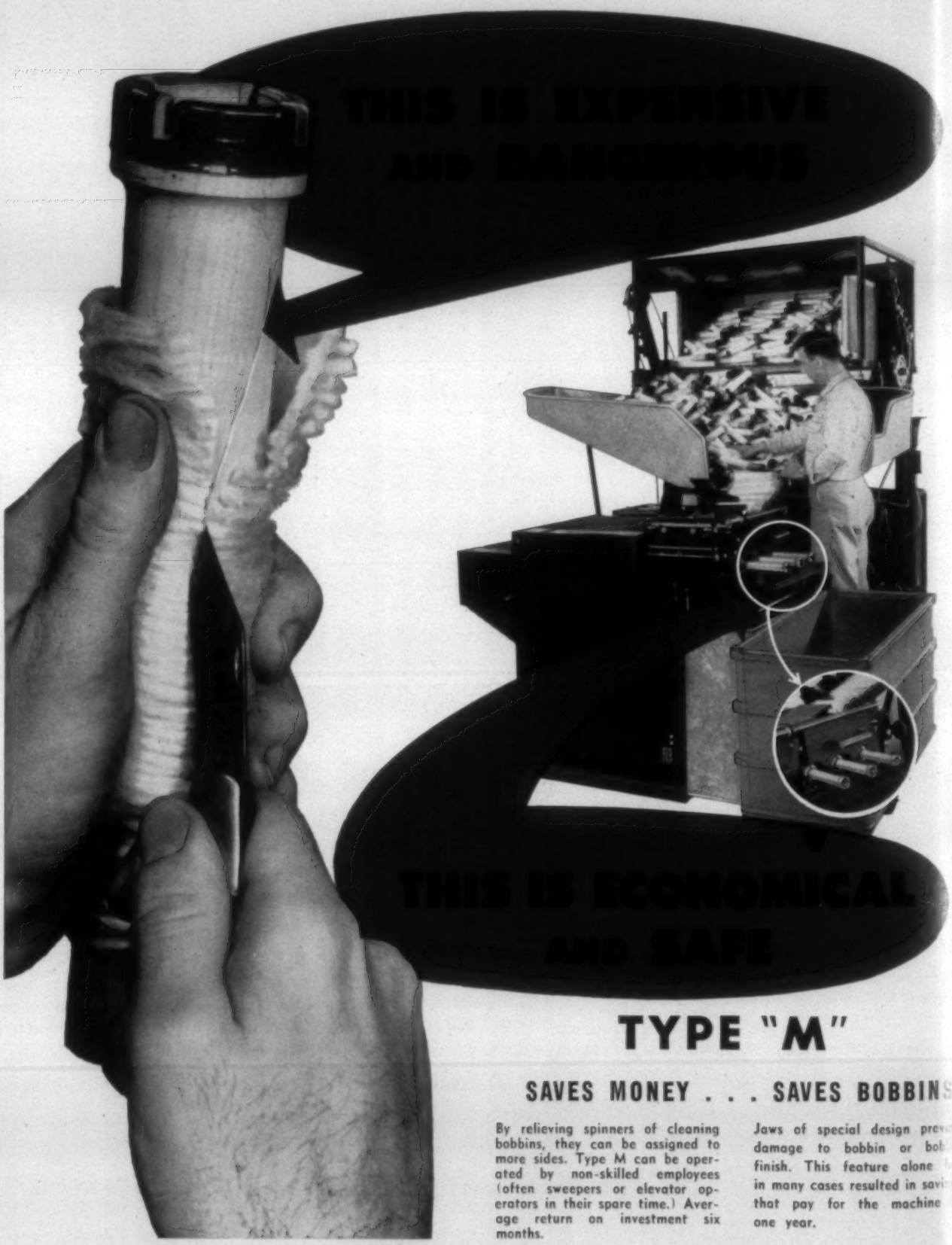
Developed by U.S.D.A.'s Agricultural Research Service, the method is based on the use of a water soluable acid colloid of methylolmelamine, a chemical well known for its resin-forming qualities. The resin, which penetrates the outer portion of the fiber cell wall to become part of the fiber rather than just a coating, makes cotton virtually immune to rot and mildew as determined by soil burial tests in the laboratory.

In these tests, using soils containing fabric-destroying bacteria, untreated cotton was in shreds after one week. The treated cotton fabric still retained 100% of its breaking strength after 21 weeks.

Research by the A.S.R. Southern Utilization Research & Development Division, New Orleans, La., has shown that the chemical treatment can be used in conjunction with certain fabric-coloring pigments to increase cotton's resistance to deterioration by sunshine. The treatment can also be applied successfully to many vat-dyed fabrics, it was reported. Cost of this treatment is expected to be relatively low. The treatment can be applied with conventional textile finishing equipment.

Lassiter Corp. Reports On Its 25 Years Of Progress

From one plant and $65,000 in sales in 1934 to six plants and about $8,000,000 in 1958 is the story of the Lassiter Corp., Charlotte, package manufacturers. The firm began operations in Charlotte, and spread out from there to cover the heavy concentration of industry to be found in the area bounded by the Mississippi and the Atlantic. Lassiter's executive offices are located in Charlotte, as are two of the six manufacturing plants. The other four plant installations are in Atlanta, Ga., Greensboro, N. C., Danville, Va., and Philadelphia, Pa. The company maintains its sales headquarters in the Empire State Building, New York City, and also has a sales office in Chicago.



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textile bulletin

VOL. 85 MAY 1959 NO. 5

MILL TESTS SHOW GINNERS MUST CHOOSE BETWEEN

COTTON GRADE vs. QUALITY

By J. L. DELANY*

OVER the past ten years there has occurred a serious degradation in the cotton delivered to the mills. People in the textile industry began to ask questions as to why they were having difficulties. At Joanna, we ran several industry supervised tests on cotton quality and the effect of ginning on manufacturing costs. In every case where a controlled lot of cotton was checked against one having had the dubious benefits of everything the ginner could do to upgrade it, the best results and the lowest manufacturing costs came from the bales having a minimum of gin treatment. We ran tests in 1951, '53, '54, '56; and, in '58 ran the test to end all tests.

Previous tests had been industry sponsored and supervised. This time we also had representatives from the U. S. Department of Agriculture, plus American Cotton Manufacturers Institute, the National Cotton Council, Institute of Textile Technology, and just about every mill in the country-side.

The cotton came from Tulare County in California, where, from an undefoliated field of 23 acres, 48 bales were machine picked. The cotton was sent to the gin where it was split into four lots of 12 bales each. Twenty-four bales were ginned under low and high heat on a moderate overhead cleaning system. The other 24 bales were ginned under

* Joanna Cotton Mills, Joanna, S. C.

Thanks to overginning, the mill must pay more to buy and more to process cotton fibers, was the general conclusion of a mill-scale test run at Joanna (S. C.) Cotton Mills with the co-operation of the A.C.M. I., U.S.D.A., N.C.C., I.T.T., and "just about every mill in the country-side." This simplified explanation of the "test to end all tests" for the effects of gin treatment was delivered by author at the April 27 meeting of the Louisiana-Mississippi Ginners' Association, held in Natchez, Miss.

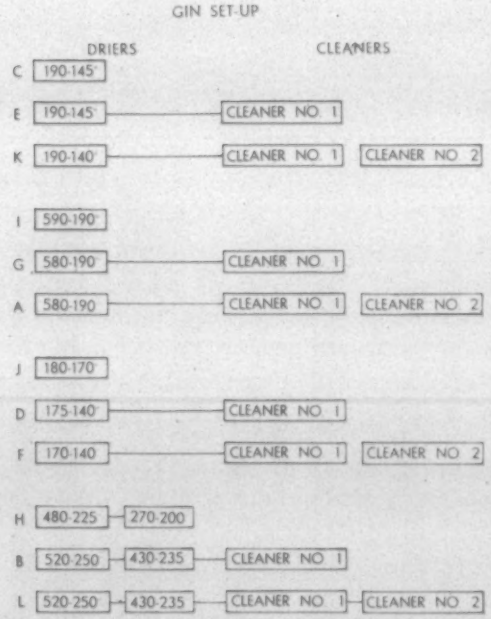

Fig. 1—Of the 48 bales used in the gin test, 24 were ginned under low and high heat on a moderate overhead cleaning system. The other 24 bales were ginned under high and low heat conditions on an elaborate overhead cleaning system. Bales given certain treatment are indicated by the letters at the far left. These letters follow throughout this set of charts correlating ginning temperatures and number of cleaners used to spinning and weaving characteristics.

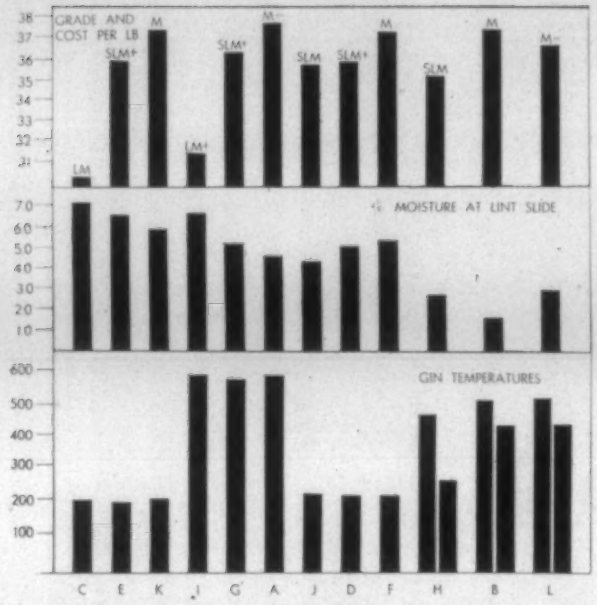

Fig. 2—The grade and cost per pound; per cent moisture in the cotton at the lint slide; and gin temperatures are shown here for the variously processed bales.

high and low heat conditions on an elaborate overhead cleaning system.

Test Procedure

When the bales were ginned a coded identification tag was put on each one. The code key was known only to the ginner and the U.S.D.A. and was not revealed until weeks after the final pound of gin test cotton had cleared the mill.

This cotton was Acala 4-42. It had strength far above

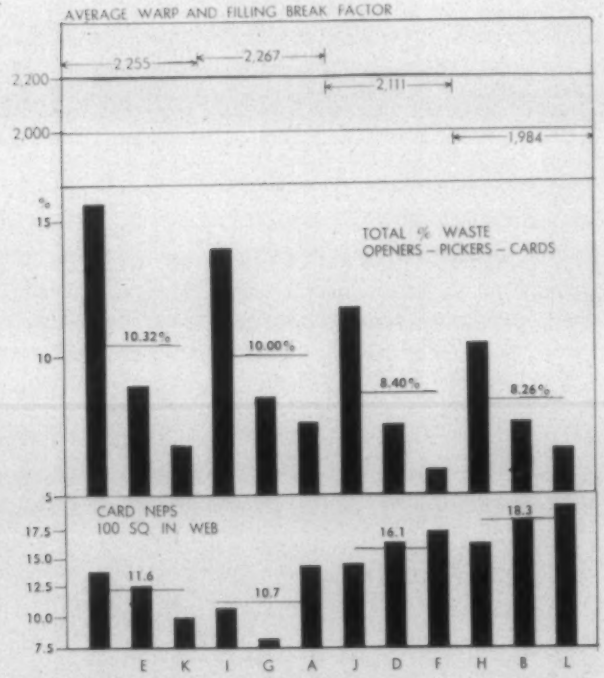

Fig. 3—The average warp and filling break factors; total per cent waste in opening, picking and carding; and neps in 100 square inches of card web are shown here for the 12 different ginning set-ups. The stock identified as I, G, and A (moderate overhead and high heat) had the highest break factor and lowest neps but was high in waste percentage.

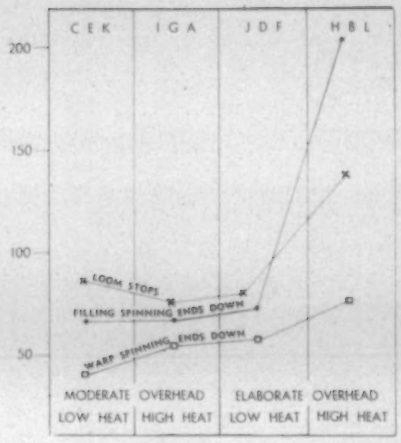

Fig. 4—Spinning and weaving characteristics are shown here. Ginning with elaborate overhead and high heat was highest in warp and filling ends-down and loom stops. From this chart stock processed on moderate overhead and high heat seems to be as good as any of the others.

any Eastern area fiber we had ever run. Its grade ranged from low-middling at 31.31 cents per pound with a minimum gin treatment and low heat, to a better than middling-plus at 38.50 cents per pound with maximum gin treatment and high heat. The price and grades were set up by a committee of four experts in California, who knew nothing about the conditions under which the cotton had been ginned.

Conclusions

Thanks to the ginner, the producer gains a high grade which pays him up to 22% more for his cotton. But the fiber is irretrievably damaged. The mill then must pay *more to buy*, and *more to process*. In our low margin of profit industry, this extra cost may well mean life or death for a marginal mill. Based on U.S.D.A. figures compiled at Joanna, we arrived at a price index of 100 for minimum gin treated cotton. For the higher grade maximum gin worked staple, our price index came to a whopping 114%. No industry can endure such lack of control over their raw materials.

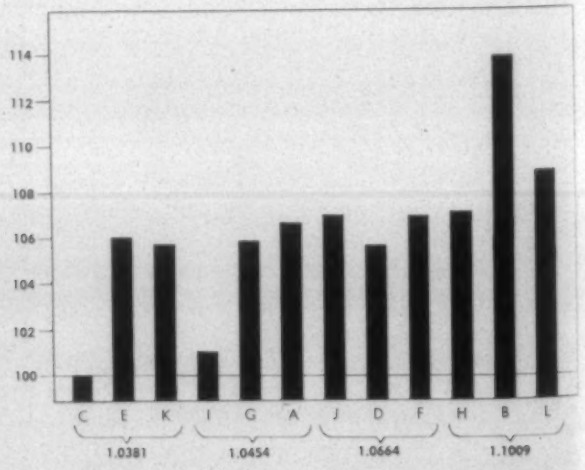

Fig. 5—Based on U.S.D.A. figures the mill arrived at a price index of 100% for minimum gin treated cotton. The cottons run in this test were adjusted to this index and it was shown that for the higher grade, maximum gin worked staple, the index came to a "whopping 114%." This chart shows all the cottons in the test in relation to the 100% index.

Horace Pennington

Walter Vincent

Joe N. Jenkins

R. M. McCrary

Southern Textile Association

To Hold 51st Annual Meeting June 18-20

THE Southern Textile Association will hold its 51st annual meeting June 18-20 at the Ocean Forest Hotel, Myrtle Beach, S. C. The three-day meeting officially gets under way at 1 p.m. Thursday, June 18, with Thursday afternoon left open for golf and social activities. Two business sessions are scheduled, one each on Friday and Saturday, June 19-20 at 10 a.m. Friday afternoon will feature golf tournaments for both the men and the ladies. For non-golfers a bingo party offering a bevy of valuable prizes has been scheduled at 2:30 p.m.

A feature of the closing business session will be the election of officers. Following precedent, Joe N. Jenkins, The Kendall Co., Pelzer, S. C., is expected to be elevated to the presidency to succeed Walter Vincent of Dan River Mills, Danville, Va. Vincent will assume the chairmanship of the association's board of governors. In this post he will succeed Horace Pennington of Cone Mills Corp., Gadsden, Ala. Succeeding Jenkins as first vice-president will be R. M. McCrary, Hart Cotton Mills, Tarboro, N. C., the association's current second vice-president. A new second vice-president will be named to succeed McCrary.

Also to be elected are four members to the association's board of governors. Board members with terms expiring include M. L. Brackett, Highland Park Mfg. Co., Charlotte; L. A. Crawford, Joanna (S. C.) Cotton Mills Co.; J. C. Farmer, Henderson (N. C.) Cotton Mills; and D. H. Roberts, Lydia Cotton Mills, Clinton, S. C.

Advance registrations indicate an attendance in excess of 600. This figure includes both regular (mill men) and associate (suppliers) members and their wives. Following is a tentative program for the meeting:

Thursday, June 18

9:00 A.M.—Registration, Main Lobby.
1:00 P.M.—Men's Golf Tournament, The Dunes Club.
6:30 to 7:30 P.M.—Social Hour, Ocean Forest Ballroom.
7:00 P.M.—Buffet Supper, Main Dining Room.
9:00 P.M.—Dancing, Main Ballroom. Music by Dean Hudson and his orchestra.

Friday, June 19

9:00 A.M.—Registration, Main Lobby.
10:00 A.M.—Opening Business Session, Ocean Forest Ballroom.
1:00 P.M.—Men's Golf Tournament, The Dunes Club. Women's Golf Tournament, The Pine Lakes Club.
2:30 P.M.—Bingo, Main Ballroom.
6:30 P.M.—Social Hour, Main Ballroom.
7:00 P.M.—Charcoal Steak Supper, Main Dining Room.
9:00 P.M.—Floor Show, Main Ballroom.
10:00 P.M.—Dancing, Main Ballroom. Music by Dean Hudson and his orchestra.

Saturday, June 20

9:00 A.M.—Final Registration, Main Lobby.
10:00 A.M.—Closing Business Session, Ocean Forest Ballroom.
Noon—Convention adjourned.

M. L. Brackett

L. A. Crawford

J. C. Farmer

D. H. Roberts

Convention Arrangements

Serving as chairmen of the various activities at this year's meeting will be W. S. Terrell, Terrell Machine Co., Charlotte, golf committee; Frank P. Barrie, Universal Winding Co., Charlotte, bingo committee; T. I. Stafford, Clifton (S. C.) Mfg. Co., bingo prize committee; R. T. Stutts, Carolinian Mills, High Shoals, N. C., speakers committee.

Associate Member Activities

The associate member division will conduct its annual business meeting on Saturday morning, June 20 preceding the convention's closing business session. The suppliers' meeting will feature the election of officers, and if precedent is followed, E. Haines Gregg, A. B. Carter Inc., Gastonia, N. C., will be elected chairman of the division to succeed R. W. Dunn, Whitin Machine Works, Spartanburg, S. C. Dunn will be named chairman of the associate member council to succeed Charles C. Switzer, Keever Starch Co., Greenville, S. C., and the group will elect a new vice-chairman to succeed Gregg. Also to be elected are four new members to the division's council.

Charles C. Switzer

R. W. Dunn

E. Haines Gregg

A Round-Up Of S.T.A. Activities

What Does The Future Hold For Textiles In South Carolina?

By FREDERICK B. DENT

FINANCIAL advisers recommend to investors an appraisal or review of their investments from time to time to determine whether their choice continues to be a good one. All of us here have one investment in common which I would like to re-appraise with you. We have all invested our working lives and perhaps the entire security of our families in the textile industry of South Carolina. One making such a major investment should expect to ask—Is there *opportunity?*

The textile industry is composed of hundreds of relatively small units competing for the consumer's favor. No individual company enjoys the advantage of as much as 5% of the entire market. This situation results in an almost unquenchable demand for leadership and leaders in our textile plants and their offices. These leadership opportunities exist at every level in the plant and progress through president.

How's the textile industry coming along in South Carolina? Does it offer opportunity? Security? What are the prospects for the future? These are some of the questions touched on by F. B. Dent, president of the South Carolina Textile Manufacturers Association, in an address before the Spring meeting of the South Carolina Division of the Southern Textile Association.

Furthermore, in South Carolina we find that there are 322 textile plants today. This is an increase of 27% over the number in the state just ten years ago. If we are personally prepared to move ahead, there must be a need for our improved skills in this expanding South Carolina textile industry.

We might wonder whether this opportunity is stagnant, or is it of a changing nature in keeping with our advancing national economy and society. The South Carolina textile industry originally was an adjunct of the state's agricultural cotton economy. It consisted solely of cotton ginning, spinning, weaving and finishing. In the 1930's we noted the introduction on an expanding basis of synthetic fibers into our spinning, weaving and finishing plants. This opened new opportunities for those adept in handling the processing of such fibers and blends.

In the early post World War II era we noted the construction in South Carolina of plants to produce the new synthetic fibers. This created new textile opportunities for those with skills and training in the field of textile chemistry. In addition, this stimulated further expansion in the processing segment of the industry. The postwar era also brought the woolen and worsted processing industries to our state. Today wool is scoured, processed and finished in South Carolina.

Along with the growth of the producing and processing segments of the textile industry we have experienced an expanding textile machinery manufacturing industry within South Carolina. During the past year a very promising and stimulating new dimension has taken hold in the South Carolina textile industry. Textile research has come into its own with the construction and dedication in Spartanburg of the largest privately operated textile research center in the U. S.; with the dedication April 16 of the new

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IN the new PIEDMONT, Whitin offers you a Spinning Frame which is not only smart in appearance, not only advanced in design — but which is also foremost in economy of operation. There are PIEDMONT benefits in every phase of your spinning operation.

PRODUCTION: Increases in front roll speed of 25 to 30% more than *average* production — and up to 15% more than *top current* levels.

PERFORMANCE: Simple construction with "built-in" efficiencies — straight line spinning plus SUPER-DRAFT for quality yarn — large "control-wound" packages for reduced spooling costs.

MAINTENANCE: Lowest cleaning costs possible thru streamlining — open construction — ball bearing assemblies — unique single-spindle drive — elimination of cylinders and tapes.

In every respect, the Frame of the future for mills with a future!

Features 27" width, traverses up to 12", enclosed single spindle drive, simplified head end and gearing, new builder, integral waste removal and motor cooling unit.

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Etters, Dent, Vincent

Principals at the Spring meeting of the South Carolina Division of the Southern Textile Association included W. B. (Bo) Etters of Reeves Brothers Inc., Spartanburg, chairman of the division; F. B. Dent, president of the South Carolina Textile Manufacturers Association; and Walter Vincent, S.T.A. president.

U.S.D.A. Spinning Laboratory at Clemson, and the announced building program for a new private textile machinery research facility at Clemson.

With respect to opportunity, we can therefore conclude that it is expanding and progressing in the South Carolina textile industry despite the fact that the original reason for the industry's establishment here—cotton growing—has rapidly diminished in recent years.

Security

In investing our working lives we should inquire as to the *security* of our investment. The textile industry of South Carolina offers security because it is progressive, and because it serves one of mankind's three basic and continuing needs, clothing. The essentiality of the textile industry to our national security was re-affirmed in February by the Office of Civil and Defense Mobilization when it stated:

"On this point there need be no equivocation. The O.C.D.M. regards the textile industry as an essential industry and considers it an essential part of the nation's mobilization base . . . By any standards, the textile industry must obviously be regarded as essential to the national security."

As regards security for the individual, we find ample evidence in the recent twenty-third annual report of the South Carolina Department of Labor:

"During the national business recession which occurred in 1957 and the early months of 1958, South Carolina's industrial economy, as a whole, maintained a high degree of stability."

Elsewhere in his report Commissioner of Labor Ponder stated:

"It is with genuine satisfaction that I am able to report to you that South Carolina continues to occupy first place among all other industrial states in the nation with respect to reduction of man-hours of employment lost due to strikes. Only .0003% of the total man-hours worked by our nonagricultural labor force were lost due to strikes."

Security also comes with expanding job opportunities. There are some 10,000 more people in our South Carolina textile industry than in 1946, and market research people are predicting additional future growth.

Wages Keep Pace

Regarding the investment of our working lives in the South Carolina textile industry, we should also appraise our *pay*. The hourly rates obtainable are certainly among th highest in our state. Furthermore they are not of a seasonable nature, but truly regular 52 weeks in the year, whic on an annual basis compares much more favorably wit seasonal industries which may pay more during a limite operation. Let us recognize that wages have advanced ove 72% in the South Carolina textile industry since 194 despite severe competitive conditions. Thus, we can conclud that our pay is good and has a proven growth record.

We should also evaluate the *technological level* of ou investment in the South Carolina textile industry. Is it stagnant or progressive?

Despite the fact that it is perhaps the oldest industry the American textile industry through the genius, abilit and aggressiveness of its personnel has been able to increas its productivity on a national average by 48% since 1947. This technological progress is enabling the textile and apparel industries to deliver its products at a wholesale price index 6.3% lower than in 1947. How does this compare with other industries? Very favorably, for the wholesale price index of all industrial products is 127.7% of the 1947 level. Our technological progress has not only controlled inflation, but actually added value to the 1947 dollar!

In the field of technology we find the South Carolina textile industry turning out almost continuously new fibers, new fabrics, new finishes and new techniques. Technological progress has also come to the assistance of the individual employee in a South Carolina textile plant altering his or her job from one formerly of brawn to one of brain, for we find in today's modern spinning and weaving mills as many as 40 electrical horsepower installed per employee to assist the skilled workers in performing their daily tasks.

Let us bear in mind that this textile technological progress has resulted from private initiative without Federal grants, subsidies, allowances or tax incentives which have stimulated and benefit other industries in recent times. Yes, of technological progress in the South Carolina textile industry there can be no equivocation.

Working Conditions

Lastly, in appraising the investment of our working lives in the South Carolina textile industry, we should consider our *working conditions*.

In his recent report South Carolina Labor Commissioner Ponder said:

"Employers in South Carolina are law abiding citizens who take a keen interest in the welfare of their employees. We are sure that the working conditions and employee-employer relations in South Carolina compare favorably with those prevailing in any state in the union."

This last report notes tremendous progress in safety efforts in the South Carolina textile industry with the latest accident frequency rate for 1957 being only 26½% of the 1947 level and only 40% of the current national average for the textile industry.

In the category of working conditions it is clearly evident that improvements in South Carolina's textile plants, their machinery and techniques are increasing the caliber of the men and women who work there. We are all on the move upwards and forwards.

Lastly of working conditions, we would observe that South Carolina textile manufacturers are interested in the human dignity of those who work for them and in the

enhancement of the human values at the places where their people work.

Future Prospects

Our final question in this appraisal should relate to *future prospects* of the South Carolina textile industry. The report submitted in February by the Subcommittee of the U. S. Senate which studied the problems of the domestic textile industry could become a vertible "Bill of Rights" for our industry when implemented, through which Federal policies harmful to us may be rectified.

Secondly, the Office of Civil and Defense Mobilization has recently stated:

"With regard to the cotton and rayon broad-woven industry, requirements and capacity are almost completely in balance, and further displacement of U. S. capacity could pose a serious mobilization problem. We will watch this situation carefully."

Thirdly, economists tell us that better days may be expected for the South Carolina textile industry for five reasons:

(1) The postwar "baby crop" will begin consuming more textiles as they reach teen age.

(2) Home building continues at a high level.

(3) Industrial production continues to advance consuming more industrial textiles.

(4) The favorable competitive price advantage of textiles as compared with other industries.

(5) An increase in consumption of consumer durable goods is not expected.

Thus, we might conclude that there is a promising future ahead for the South Carolina textile industry.

A Discussion On Spinning

A feature of the Spring meeting of the South Carolina Division of the Southern Textile Association was a group discussion on current spinning practices. Acting as discussion leader was Alex Crawford, Joanna (S. C.) Cotton Mills Co.

Question: I would like to hear some comments on the new Kluttz spinning ring.

Answer: We are running some of them and are getting satisfactory results. We increased spindle speeds from about 10,000 to 11,900 r.p.m.

Question: What size rings?

Answer: 1⅞-inch rings running 50s. We had no breaking-in period. We ran them 30 minutes and then changed the travelers. Then we ran eight hours and changed the travelers. After that it was just the regular traveler change of every two weeks.

Question: How long have you been running the rings?

Answer: Approximately four months. We have them on 40 frames.

Question: Is anyone running plated travelers?

Answer: I'm running Carter Supreme travelers.

Question: I'd like to hear some comment on octupus type overhead cleaners for spinning frames. What's the difference in the frequency of cleaning?

Vincent, Roberts, Liner, Etters

In an election of officers at the Spring meeting of the South Carolina Division, D. H. Roberts of Lydia Cotton Mills, Clinton, S. C., was named chairman of the division to succeed W. B. Eetters. Currently a member of the S.T.A.'s board of governors, Roberts has long been active in S.T.A. activities. Named vice-chairman of the division was E. L. Ramey of Inman (S. C.) Mills *(not shown)*. Shown here with the new chairman are Walter Vincent, S.T.A. president; R. A. Liner, Greenwood (S. C.) Mills, retiring vice-chairman; and Etters.

Answer: It saves us a lot of manual cleaning. We saved at least 25% of manual cleaning.

Question: How often do you blow down the overhead?

Answer: We get around once a month. We have continuously operating overhead cleaners behind the octupus cleaners.

Question: How often do you have to pick the rolls?

Answer: Every 48 hours.

Question: Is it practical to run a high draft with vacuum collection system without oilless top roll set-up?

Answer: We have all of our frames equipped with vacuum collection systems. Our top draft is 20. All of our top rolls are oiled.

Question: How often do you have to oil them?

Answer: Once a week.

Question: What's the highest spindle and traveler speed used on 2-inch rings making 40s yarn?

Answer: On 30s we're running 10,800 spindle speed.

Answer: We run 11,000 on 32s.

Answer: We have run 38.5s on a 2-inch ring at 11,500 spindle speed and were pretty successful. Our normal speed on this count of warp is around 10,700.

Question: What's the best roll covering to be used for running Dacron blends?

Answer: We've found that Armstrong's 628 in front and 739 in back gave the best results.

Question: What's the proper distribution in the amount of top roll weight?

Answer: We recommend 30 pounds on the front, 20 on the second and 20 on the third. This totals 70 pounds. We use spring weight top rolls. We use this on any hank roving.

Question: What effect does vacuum scavenger systems have on top roll lap-ups?

Answer: We have about a 6-to-1 increase in lap-ups.

Answer: We have about 3.5-to-1 increase.

Question: Are there any comments on hard against soft top roll cots spinning 30s carded yarn?

Answer: We have both and think that the soft cot runs best.

Question: Is that on all three lines?

Answer: Yes.

Question: What is the buffing cycle on those soft cots?

Answer: About five months.

Question: Does anybody want to comment on maximum spindle speeds on top drive filling spindles?

Answer: We run 42s yarn with a spindle speed of 11,500 on 1⅜-inch rings.

Question: Do you get any more yarn on the bobbin with a top drive?

Answer: Yes.

Question: Do you use separators on your spinning frames?

Answer: No. The frames are 2¾-inch gauge. We use a twist multiple of 3.75.

Question: What success have you had in training spinners in new methods necessary on new machinery?

Answer: We have a lot of trouble with this. We find that the people have got to be "sold" on the equipment and the method. People who are set in their ways are reluctant to change.

Question: Do anti-fricton top rolls in spinning cause excessive variation in the yarn numbers?

Answer: We find we have less variation.

Answer: We have 136 frames running on Dixon anti-friction top rolls and have less variation.

A Discussion On Weaving & Slashing

A second discussion heard at the Spring meeting of the South Carolina Division of the Southern Textile Association dealt with current practices in weaving and slashing. J. A. Chapman Jr., Inman (S. C.) Mills, and D. H. Roberts, Lydia Cotton Mills, Clinton, S. C., acted as discussion leaders.

Question: Is there a critical point where we speak of high speed slashing? By this I mean do you think there is a speed when gone beyond, size pick-up is lessened or there is excessive end-breakage because of speed?

Answer: I'd say that there isn't. At least we haven't found it. If anything, size pick-up increases as you increase speed. We haven't found an increase in ends-out. If anything, the weaving is running better.

Question: Do you run 80 squares?

Answer: Yes.

Answer: We've found that size pick-up increases as speed increases. Our slashers are not at the maximum speed. We haven't found that critical point yet. I feel sure there must be a point where excessive end-breaks occur.

Answer: We found that going from the conventional two-cylinder slasher for 2,000 ends of 30s yarn at about 60 yards a minute, and then going to the new high speed slashers running at 100-110 yards a minute that there is an increase in size pick-up, everything else being equal.

Answer: We run nine-cylinder Cocker slashers with Westinghouse multi-motor drives with two Griffin size boxes running around 4,000 ends of 30s yarn. We played with the slashers up to 110-120 yards a minute. They ran okay at that speed, but our weaving production began to drop. We did several things but finally went back to our slashers and started experimenting with them. We finally settled on 80 yards a minute. We found that we got increased production in weaving because of it. The size pick-up didn't

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change at all but we definitely got better running warps in the weave room at 80 yards a minute than we did at 110.

Answer: At 110-120 yards a minute we found we were getting too many stuck ends. Of course, we feel that if we have as many as two stuck ends we're getting too many.

Question: How often do you lease up?

Answer: At 80 yards a minute we lease up at least every other warp. At 110 yards a minute we lease up at least at every warp and more if we have many ends out.

Question: In using two size boxes, do you bring both sheets of wet yarn together on the same cylinder?

Answer: Yes.

Question: What size pick-up do you have on 80 squares?

Answer: We have 12½% on 80 squares.

Question: Do you think you get better running work at 12½%?

Answer: Well, that's what our customer holds us to.

Question: That 12½% is what's left in the warp. Now how much does that amount to in the cloth?

Answer: Around 8½%.

Question: Do you ever have any trouble with soft warps at 8% moisture content?

Answer: No. We did try to run 8½% and we had trouble. We then cut it to 8%. You know good slashing depends on a good job throughout the operation. If one phase of the operation is bad, it can throw everything else off. These new slashers gave us a great deal of concern when we first put them in but they've done a real good job for us. If anything, our weave room efficiency is better now than it was with slower speed slashers.

Question: Do you run wooden section beams?

Answer: Yes.

Question: What is the general opinion of the merit of 100% rubber rolls for slashing cotton plied and single warps as compared to synthetic rolls?

Answer: I find that I get more film on the outside of the yarn with rubber rolls than I do with synthetic rolls.

Question: How does tension on the slasher affect cloth breaks? Does variation in stretch on slasher affect cloth breaks?

Answer: Yes, it does. We have an instrument to check stretch from the back of the size box to the delivery roll. The slasher man can check the stretch at any time. We try to hold it to 1½ to 1.8%.

Answer: We check stretch each set. We use a multi-motor drive and we maintain a stretch of 1.5-2%.

Question: How can you increase the speed of a hot air slasher?

Answer: Well, the answer to that is perfectly obvious since it is a hot air slasher. Just run more hot air.

Question: I would like to hear the cure on slack selvages.

Answer: Some of the things I've found that can cause slack selvages on 80 squares are: (1) cloth stands worn and jumping out of gear; (2) cloth stand blocks worn; (3) cloth stands not level; (4) cloth tubes worn in the ends; (5) whip roll and stop motion not level; and (6) temple rolls binding and not keeping the cloth pulled out well.

Answer: You can also have trouble if the dog that goes on the worm wheel on a spring shaft gets broken.

Answer: The cloth doffer may not be getting his job done right and cause slack selvages. If one side of the cloth tube is tighter than the other, it will cause it.

Question: Has anyone had any experience with the new Hunt let-off?

Answer: I've heard that it's mighty good to reduce wavy cloth when weaving filament. You can get it on new Draper looms now, I know that.

Question: Would anyone like to comment on the use of loom gauges on E and X Model looms?

Answer: We use them.

Answer: So do we.

Answer: We do, too.

Question: What are your speeds on E Model looms?

Answer: We run our 40-inch E Models at 165 p.p.m. on 80 squares.

Question: Do you have a spreader?

Answer: No.

Answer: We run ours 172 without a spreader.

Answer: We run ours 166 without a spreader.

Answer: We run 172 with a spreader.

Answer: We run our 40-inch E Models at 190 p.p.m without a spreader.

Question: What kind of cloth are you running at that speed?

Answer: Light prints.

Question: Are they motor driven?

Answer: Yes.

Question: Do you have much trouble with friction discs slipping at that speed?

Answer: Not so far. No more than we had at 180.

Question: Are they on the ground floor?

Answer: No sir, they are on the third floor.

Question: How long have you had them running that fast?

Answer: We ran them 180 for about five years and they've been running 190 since 1956.

Question: What is the weight of your shuttle?

Answer: It's just a pure wood Southern shuttle.

Question: How long is your bobbin?

Answer: 8⅜-inch bobbin.

Question: How many looms do your weavers run?

Answer: Anywhere from 90 to 115; 90 on dobbies.

Question: I would like to know the average life of dogwood shuttles on E and X-2 as opposed to plastic shuttles.

Answer: Our dogwood shuttles average about six months. Our plastic shuttltes average about 2½ years. This is on 80 squares running at 166 p.p.m., 8-inch bobbin, six-day operation.

Answer: We run four to six months on E Models. Plastic shutttles have run 18-20 months.

Answer: On 40-inch E Model looms running broadcloths and piques at 172 p.p.m. with 8-inch quills we get an average life of about 2,000 hours. On plastic shuttles we get about 7,000 hours.

Question: What is the average life of pickers on X-2 looms using plastic shuttles?

Answer: About ten weeks.

Answer: On 46-inch X-2 Models running 176 with 8¾ quill, picker life was ten weeks. We had to get away from that so we got another type of picker which runs longer. You can't afford to wear them out too quick.

Question: What are the disadvantages of changing from 8 to 8¾-inch quills on E Models running 40s filling?

Answer: The most important thing is to change the loom all the way. That is you have to change lays, parallels and get everything set up for it. If you do that you will get a good job on 8¾-inch quills.

Answer: First of all, the things this gentleman just said are very, very important. You have to get your people to do a better job than they did on eight-inch quills or your sec-

onds will run much higher. If you improve on your training of people you'll be all right. If you don't, it's going to hurt you.

Answer: Changing the lay end plate, changing the parallel so the picker stick will operate right, and proper battery settings are all important.

Question: In changing from a 24-inch loom beam to 26-inch beam heads on 40-inch E's, what difficulties would you encounter, if any, as to proper warp tension when the yarn on the beam is down to 150 yards?

Answer: We didn't have any trouble on the one we changed.

Answer: Some E Models have a different type of back girt which gives trouble because you have to get the let-off too low. If the let-off gets out of proportion you get into trouble.

Answer: You can turn those girts over and not mess up the let-off.

Question: Is there any way to keep even selvage tension when folding a fabric with one slack selvage in the cloth room?

(No answer.)

Question: Has anyone tried any of the electronic cloth inspection machines?

(No answer.)

Question: Does anyone grade poplins on the point system?

Answer: Yes, we do.

Question: How many points do you allow per 100 yards?

Answer: Ten majors, with four points per major.

Question: What defects do you count as a major?

Answer: Jerk-backs, set marks, thin places, a lot of things.

Radiation Chemistry

In The Textile Field

By HENRY A. RUTHERFORD

The following non-technical description of activities at the North Carolina State College School of Textiles' radiation laboratory was a feature of the Spring meeting of the Eastern Carolina Division of the Southern Textile Association. Professor Rutherford, who is head of the textile chemistry department at State College, emphasizes in his remarks that the program now being conducted by the laboratory is purely one of research. The sole purpose of the program is to determine whether or not there is any application of radiation in textiles. Findings to date are encouraging.

IT gives me a great deal of pleasure to be here and to tell you about one aspect of the work we have undertaken here at the North Carolina State College School of Textiles. I have been asked to give a non-technical talk related to the work we are doing in the field of radiation chemistry. People are inclined to be a little bit awed at the real meaning or impact of radiation. They take the attitude that nuclear physics or nuclear technology is too complicated to try to understand. Actually, it isn't too complicated. Everything is made out of some fundamental particle. You're sitting on chairs made out of wood and wood was synthesized by Mother Nature from carbon dioxide and water in the air. It is made out of particles or atoms that are made out of, in the case of wood, material taken by nature from the air and ground. The material was synthesized, or built up.

Now an atom has several principal parts: (1) the nucleus, the part that accounts for the atom's weight; and (2) the electron, negative electrical charges which orbit around the nucleus and have very little weight. The nucleus is composed of two particles, protons and neutrons. The protons have positive electrical charges. The neutrons have no charge.

What an element is depends on how many protons and how many neutrons there are in the nucleus. Since this nucleus constitutes the mass then the heavier elements are those that have more protons and neutrons in the middle. Take iron and aluminum for example. You know that a piece of iron and aluminum of the same size have different weights. The aluminum is a lot lighter since it has fewer neutrons and protons in its nucleus.

In an ordinary element the members of the atom constitute a very happy family. Nobody is too crowded in the nucleus and so it is just a normal material. However, if by some artifiical means we put something else into that element, specifically a neutron, we upset this happy family and things begin to happen.

If you put another neutron in the atom of Uranium 235 the atom just won't tolerate the stranger. It splits right down the middle and flys to pieces. This happens with the elimination of two fragments and the creation of two new elements. Each of these new elements represents approximately half of the original nucleus. The neutrons and protons go along with the split parts. So, if we start with Uranium 235 one of the new elements might be barium and the other krypton. This is what happens in an atomic bomb.

Thus, man can artificially produce radioactive material. We do it by putting neutrons into the nuclei of perfectly normal and happy atoms. Now not all of these atoms will just split down the middle when you throw in a neutron. Some of them get reasonably unhappy and they just fuss and raise the dickens about it. They throw off a small amount of heat and radiation. That indicates a gamma ray, which is not too far removed from an x-ray. It is even more

penetrating than an X-ray, however. Because they are this way they can cause some rather unusual changes in matter.

It is possible to control the rate at which some of the elements split and thus to control the liberation of heat. The heat is then used to make steam to run a steam turbine which generates electricity. These atomic power plants are virtually the same as an atomic bomb except the rate at which these atoms fission, as it is called, is controlled. A result of the use of this materrial is the production of highly radioactive ashes. Provisions for using or disposing of these ashes has been and still is a very serious problem. At present these ashes are sealed in concrete and lead and dropped in the Pacific Ocean. This is not a very good answer to the problem. The government is sponsoring research to find ways in which industry could put these ashes to good use.

Here at the school we have a fairly sizeable contract with the U. S. Atomic Energy Commission. The contract is co-sponsored by four textile companies—Cone, Stevens, Burlington and Reeves Brothers. Our job is to find out whether or not there is any use in the textile industry for these radioactive products. What can we do with radiation to modify our textile materials to make them better? This has got nothing to do with making power or to furnish electricity to a textile mill. This work is devoted to the application of radiation to the field of textiles.

How do we use radiation? Well, we can cause some rather remarkable changes to take place in matter with radiation. For instance, if you take a water solution of the chemical called acrylonitrile, the chemical out of which Orlon is made, and put it inside a gamma cell for about 15 minutes, the chemical undergoes polymerization and, in effect, Orlon is made. It is in a non-fibrous form. No other chemicals are added. Radiation does the job.

Now, many materials will undergo changes like this one. If you put a piece of cotton in the gamma cell it deteriorates rapidly. In about eight hours there's no cotton left. But, fortunately, to make changes that you might want you don't have to leave it in there for eight hours.

We have added the water solution of acrylonitrile to cotton fabric and put the whole thing in the gamma cell. The same changes occur except that the changes take place inside the cotton fiber so that there is deposited in the cotton fiber around 8 to 10% Orlon. We suspect that this cotton fabric will be highly weather resistant. We know that it is mildew resistant.

We also know that we can do this chemically, easier and cheaper but not as well. If you do it chemically you wind up with a fabric which is harsh, brown and tender. The radiation method leaves the fabric (with about 20% Orlon added) only slightly harsher and it has lost no strength. We are not claiming that this is a great and wonderful discovery. Nobody would want to do this anyhow because the acrylonitrile is hazardous. If it gets 3% in error it will blow up. It will poison you. It is hard to handle. We don't have a radition source where you can make a large piece of it. But the principle has been established that you can, by means of radiation, do things to textile fibers to make them more useful.

We have high hopes of very shortly putting a polyethylene film on a sample of cotton. Polyethylene is one of the most water-resistant materials there is. If we can put polyethylene in cotton, we think that we might have a very remarkable cotton. You may be able to have a cotton raincoat that won't leak.

The purpose of this research work is entirely exploratory. Our job is to find out whether or not there is any application of radiation in textiles. If there is, then it is up to all of us to develop it. Our research program is not aimed toward anything practical whatsoever. It doesn't bother us particularly that our sample fabrics are small in size, even though we would like to have them a little larger. We are not trying to be practical. We just want to know if this stuff has a place in textiles.

Stevens, Gilbert, Hughes, Rogers

Newly-elected officers of the Eastern Carolina Division of the Southern Textile Association include T. B. Stevens, Erwin Mills, Erwin, N. C., chairman; J. R. Gilbert, Hart Cotton Mills, Tarboro, N. C., vice-chairman; J. P. Hughes, Cone Mills Corp., Hillsboro, N. C., secretary-treasurer; and W. Ray Rogers, Holt-Williamson Mfg. Co., Fayetteville, N. C., member of the executive committee.

A Discussion On Weaving & Slashing

In addition to the remarks of Professor Rutherford, the Spring meeting of the Eastern Carolina Division featured a discussion on timely topics in weaving and slashing. Leading the discussion was R. B. Cooke, Erwin Mills Inc., Durham, N. C.

Question: Our first question is about the use of chrome-plated box fronts. Can the regular box front be plated?

Answer: We have run just a few. We had our regular box fronts plated.

Answer: We have a box front with just a partial piece of plated leather on it. I'd much rather have leather all the way. This is on a heavy, wide loom.

Answer: We have been experimenting with this leather cover all the way on the front binder. Some of our loom-fixers like it and some of them don't. Some of them think that it causes broken filling and some of them think you get good results from it. This is on Draper L Model looms.

Answer: Anytime you run leather all the way on the right hand box front it requires a lot of attention. I am sure it is better on the life of the shuttle and the condition of the front wall of the shuttle but the least little roughness in the leather will cause the filling to hang or make kinks or jerk-ins. It also could break the filling. I have seen leather box fronts get a row on them that gets almost

as sharp as a knife. When the filling gets in there it is cut easily. But leather covering all the way down the box front is better on the life of the shuttle. It certainly must be looked after often. The edges of the leather in the Stafford slot must be kept smoothed off. You have less filling hanging with a short piece of leather on the box front.

Question: When you say it is better on the shuttle, do you mean that you can box the shuttle better?

Answer: Yes, I think so. It's easier to box for awhile anyway. When the leather wears some, boxing the shuttle requires more attention. The metal box front is not as susceptible to atmospheric change as leather.

Question: Does anyone use any special kind of oil on box fronts?

Answer: We use a shuttle dressing that has some sort of leather oil in it.

Answer: We used about a dozen plated box fronts and they worked all right for us. However, we don't feel the cost of it is justified.

Question: What type shuttles do you run?

Answer: We're trying several types. We have tried the plastic shuttles but most of ours are fiber side shuttles.

Question: How much does it cost to get these fronts plated?

Answer: About $2.29 for plating only.

Question: What type looms are you talking about?

Answer: Broad sheeting looms.

Question: How long is the plating supposed to last?

Answer: I think it's supposed to last from five to eight years.

Question: What is your system for cloth inspection at the loom?

Answer: There have been a lot of systems used by mill overseers and supervisors to improve the quality of their cloth. We even go so far as to stop off the loom and roll the cloth back to see if there are any bad places.

Answer: We have to be very careful about putting shift markers in the cloth because we make loom finished fabrics. The weaver is still held responsible for the cloth. We don't have cloth inspectors other than the assistant overseer, weaver and loomfixer.

Answer: We have the weaver initial the cloth.

Question: What is the best method to impress a weaver who is making excessive seconds to be more careful? Should you show the weavers the seconds report and talk with them about it or is it more effective to go to a certain loom and roll back the cloth for 10 or 15 yards and confront the weaver with the type of cloth he is making right at the time?

Answer: We post seconds and efficiency each week alongside the weaver's name. I think this creates interest in it. We also have cloth sent back from the cloth room and show it to the weaver and loomfixer.

Question: Is this better than inspecting right on the loom?

Answer: Well I don't know for sure. We get a seconds ticket back from the cloth room as soon as the inspector finds a bad roll of cloth.

Answer: How many of you have had the experience of going down the alley and stopping off a loom and rolling back cloth? The weaver will come over and ask you what you are looking for every time. If you have a systematic

way of doing this, I think the weaver will give you a better grade of cloth. He will know that you are coming around and roll the cloth down. That's the point I'm trying to get over.

Answer: I think it's more effective to inspect right in the weaver's alley. We put a flag up on the looms that have made defects. The weavers inspect the cloth on that loom several times a shift. They check each end of the roll of cloth to tell if it is jerking in filling. If the weaver comes in and finds a roll of cloth that has been jerking in filling all during the shift that just went off we have the cloth doffed and put on the inspection table. Next day we show it to the weaver that made it.

Answer: We have the cloth room make a report on every roll of cloth that comes to the cloth room. If the roll is a second a ticket is made out on the cloth. This record is kept for a week and you can tell what that particular weaver is weak in. When you go to that set of looms you have a pretty good idea what you're going to find before you get there. You can work on that weaver to try to teach him and correct his weaknesses. We try to be sure that the weaver and the fixer are working together.

Question: When you show the cloth to a weaver, do you have someone tend the looms while the weaver's gone?

Answer: We have an inspection table in the weave room and the weaver isn't gone more than five or ten minutes at the most.

Question: Where there is no specialized maintenance program, what method of loom upkeep do you have?

Question: What do you mean by specialized loomfixing?

Answer: Well, it means where you have one man to keep up all the pick motions, another to keep up all the shuttles, and so forth.

Answer: When the warp is out the loomfixers go over the loom according to a check list we made out. The loomfixer then turns in this ticket to his supervisor. The supervisor goes back and checks the loom to see that everything has been taken care of properly.

Question: How long do your warps run?

Answer: About six or seven weeks. This means the loom is thoroughly checked every six or seven weeks.

Question: What do your fixers do during the warp out time?

Answer: They go over all the leather, the rocker shafting, rocker boxes, protection rod, and so forth. The loom is checked from bottom to top according to the check list. Now, everything does not have to be fixed. In fact, most things are okay and nothing is done to them. But the idea is to catch things before they break or something happens to them.

Question: How much down-time do you have when the warp is out?

Answer: It depends on how much overhaul work needs to be done. Down-time is about an hour or more before the loom is ready for the tying machine. The loom then waits for the tying-in machine.

Answer: When the warp is out we go over the loom and tighten the bolts and do anything that needs to be done. In addition, we have our loomfixers go over one loom per week completely. The fixer checks the loom all over from top to bottom and fixes anything that may need it. We also check over the binders and box fronts and so forth once per week. We save a lot of flags and supply parts by going over the loom when the warp is out.

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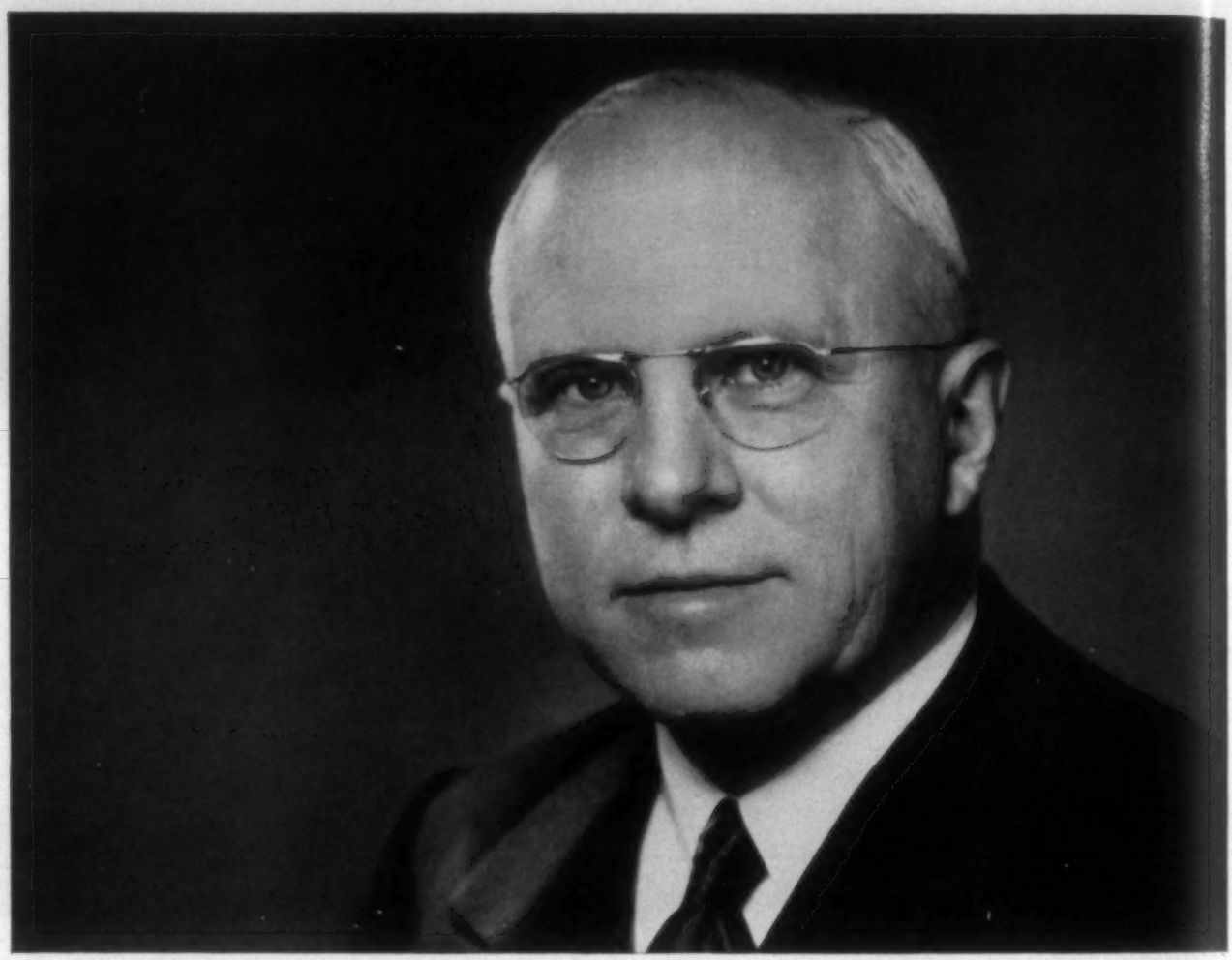

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textile bulletin

A.C.M.I. hears of

- **modern ginning and cotton quality**
- **end-use selection of cotton**
- **U. S. D. A. spinning lab plans**

RECENT mill tests have shown that certain ginning practices are increasing direct textile mill spinning and weaving costs 2½ cents per pound of cloth according to statements made by John E. Ross of the U.S.D.A. Agricultural Marketing Service, Stoneville, Miss., at the April 15-16, Open House held by the American Cotton Manufacturer's Institute at Clemson, S. C. He said this was the case when "overdrying is used in conjunction with elaborate overhead seed cotton cleaning and two lint cleaners."

Ross drew his conclusions from the results of mill scale spinning and weaving tests conducted at Joanna (S. C.) Cotton Mills. (See page 37 of this issue for details.) The tests were supervised by the U.S.D.A. in co-operation with A.C.M.I., The National Cotton Council and the Institute of Textile Technology.

"The most important quality measurement in the test in indicating processing performance," Ross pointed out, "was the proportion of fibers shorter than ½-inch in lint cotton. Approximately 64% of the variation in ends-down in spinning 30s yarn and 86% in spinning 40s yarn was accounted for by variation in the proportion of short fibers. On the average, an increase of 1% in short fibers was associated with an increase of 13 ends-down in spinning 30s yarn and of about 60 in spinning 40s."

Short Fiber Varies With Moisture

Ross said the test found that 42% of the variation in short fibers was associated with variation in lint moisture content at the time of ginning. He added, "Overhead cleaning machinery had no significant effect on the amount of short fibers in the ginned lint but again the latent effect of this equipment was shown by a highly significant increase in short fibers in the cotton at subsequent processing stages."

The test also showed that the lots of cotton subjected to the most extreme drying and cleaning conditions yielded the highest ends-down and the weakest yarns and also had the highest number of loom stops, Ross said. Outlining the crux of the problem, Ross pointed out that "Current ginning practices, which have a tendency to improve the grade of the cotton and therefore its market value, may have an adverse effect on spinnability. In fact, in this particular test the lowest grade cotton had the highest degree of spinnability as measured in terms of labor costs involved in spinning and weaving and in the value of the finished cloth."

Lost Markets

Ross concluded, "I believe that, basically, the producer, the ginner, the merchant, the mill and the consumer all have one vital interest in cotton—that of producing, maintaining and utilizing those qualities which make it the outstanding fiber that it is. Therefore, true cotton quality is necessary to the economic welfare of all concerned. United, the industry can solve its problems in a manner that will be of mutual benefit to all concerned. Divided, we will see an increased use of substitutes; and experience has taught that a market once lost is one that is hardly ever regained."

J. Winston Neely, vice-president and director of plant breeding, Coker's Pedigreed Seed Co., Hartsville, S. C., told the group, "The progress that has been made by cotton breeders in developing better varieties has truly been phenomenal." Varieties with marked improvements have been developed. The boll weevil threat was met by "developing high yielding varieties that matured early and not only escaped complete devastation but also produced high yields," he said. "Later Fusarium Wilt became prevalent in many parts of the Cotton Belt and made production unprofitable, if not impossible, in large areas." Plant breeders met the challenge by developing wilt-tolerant varieties that produced profitable yields on soils highly infested with the wilt organism.

Neely pointed out that the breeders later found how to identify those strains that are best suited for machine harvesting. "Our present day varieties of cotton are the results of well-planned, carefully conducted procedures," he said. "Cotton breeders use plants and breeding and testing techniques in much the same manner that a construction engineer uses his materials and methods. There are five steps in the cotton breeder's program: (1) obtaining stocks; (2) isolating lines; (3) testing strains; (4) increas-

As a rule, Open House time by the American Cotton Manufacturer's Institute means that a lot of important questions will be answered and significant information distributed by various well-qualified speakers. The April 15-16 meeting at Clemson, S. C., proved to be no exception as topics up for discussion included results of mill scale spinning and weaving tests of gin-damaged cotton, new cotton variety breeding, fiber testing instrument developments, progress on cotton calibration standards, and activities at the U.S.D.A.'s new pilot spinning plant at the School of Textiles, Clemson College.

Mill men attending the American Cotton Manufacturers Institute's Open House were welcomed by A.C.M.I. President James A. Chapman.

ing seed stocks; and (5) distributing planting seed to certified seed growers or farmers."

The breeder conducts an increase program designed to provide seed of a new and improved variety for release as soon as its superiority to older strains has been established. Neely said Coker's increase program follows this schedule:

Year 1	select 10,000 plants
Year 2	2,500 plant-to-row progenies
Year 3	1/5-acre block of 50 strains
Year 4	2-acre blocks of 20 strains
Year 5	30-acre blocks of 10 strains
Year 6	150-acre blocks of 2 strains
Year 7	1,500 acres of 1 strain
Year 8	10,000 acres of 1 strain
Year 9	sell to certified growers or farmers

The process is a continuous one and in any given year all nine stages of seed increase are in progress.

Neely summarized his remarks on progess in seed improvement saying the breeders were proud of this progress but "we are not satisfied with our accomplishments. There are many challenges for us to expend every effort possible to develop varieties that possess still better fiber qualities and mill performance. We accept these challenges and we solicit your aid in understanding the problem and in planning and executing our programs designed to solve them."

Instrument Development

In a paper on "Progress Of Instrumentation For Selecting Cotton For Specific End-Uses," Earl E. Berkley, director, Anderson, Clayton Co., Memphis, Tenn., fiber and spinning laboratory, said, "The first step in the development of an instrument for a fiber test is to determine the relationships of the fiber property to the use-value of the cotton." Relationships that have been established in cotton laboratories on which selection is now made are: color, fiber length and distribution, fiber fineness and maturity, fiber strength, fluorescence, and moisture content.

"The leaf trash and preparation of the sample used in designating classer's grades have been used for centuries," Berkley said, "but they are now of little value because of the changes in growing, harvesting and ginning cotton. Two factors—grade and staple—still play a large role in the governmental loan prices and, therefore, must be used in selling cotton to mills. Other than the percentage of mill waste to be expected, *classer's grade shows little, if any, relationship to use-value.*"

Instruments noted by Berkley as having been most useful in selecting cottons are: (1) a blender for preparing samples for tests; (2) the fiber fineness instruments, such as the Micronaire; (3) the Pressley strength tester; (4) the Suter-Webb sorter; (5) the Nickerson-Hunter cotton colorimeter; (6) the ultraviolet light, or so-called "black light"; (7) the Shirley Analyser for determining the percentage of waste; (8) the moisture meter; (9) the Nepotometer developed at North Carolina State College; and (10) the Cohesion tester developed at West Point (Ga.) Mfg. Co.

Automatic Micronaire

Berkley described an automatic Micronaire developed by his company. The current model is a prototype, "but a production model will be ready for routine testing within six months," he said. The device "automatically weighs the sample, adjusts the volume of the test chamber to the weight, Micronaires the cotton, and prints the fineness reading on a card. It can also be designed to use the electrical signal to punch the reading in an I.B.M. card. This instrument has the advantage of doing most of the work, thus reducing the labor costs, speeding up the number of samples that can be tested in a given work day, and avoiding poor handwriting that cannot be correctly read." Berkley said the estimated time required to test one sample is approximately five seconds as compared with 24 seconds for the present testing procedure (two operators).

Fungi on cotton is found by using an ultraviolet light or black light. Berkley said this method is being used extensively in fabric testing and, to some extent, in fiber testing. "Rapid drying of cotton at high temperatures also changes the fluorescence to a bright yellow," he pointed out. "The presence of oil on the cotton will give a blue fluorescence; the presence of chlorophyll stains from the leaves and stems will give a red-rust fluorescence; and micro-organisms growing on so-called 'honeydew' will give a peppery white fluorescence." Berkley reported there are widely varying degrees of dullness in the fluorescence of cotton. Clean undamaged cotton gives a characteristic purple halo under the ultraviolet light which is indicative of high quality, undamaged fiber.

The West Point yarn imperfection tester also plays a role in cotton evaluation tests, according to Berkley. "The most pronounced defect in fiber appearance is caused by the changes in ginning practices which leave fine particles of the motes and seedcoats known as pin trash in the cotton," he said. "These particles of motes and bits of seedcoats are the result of fast-running saws, tight seed rolls in the gin, and the use of saw-type cleaners." The particles are held fast in the yarn by fibers which are attached. They can't be removed from raw cotton by any cleaning treatment in processing. Very few of them are thrown free of the yarn by the centrifugal force in winding. Berkley indicated that "75% or more of the so-called pin trash found in yarns made from middling and better grades of cotton are these seedcoat fragments. Any instrument that would count these black specks, separate from the neps, would be a big asset in checking the gin damage other than that caused by heat and fiber breakage."

Changes in raw material evaluations in an industry as extensive and as old as the cotton industry are both laborious and expensive, Berkley pointed out. "Precedent and habit are long established and the successful people in the industry have, for the most part, come up under the system of using grade and staple for quality evaluations and for

mill settings." The problem of educating people to the need and uses of new testing instruments is long and tedious. "On the other hand," he said, "the delays in conforming to the new technical developments in any industry frequently are expensive. Those who adopt new improved methods and use them correctly frequently gain a margin of profit difficult for the laggards to overcome."

Cotton Calibration Standards

In a paper on "Progress Report Of The International Cotton Calibration Standards Program," William H. Fortenberry, Standards and Testing Branch of the Cotton Division of U.S.D.A., said while fiber test methods are scientific in principle, "in actual practice the instrument measurements are subject to a certain amount of human or operator variability." It has been necessary to use check or standard cottons to make sure that tests made on different instruments by different technicians will be reported on the same level. A number of standard cottons have emerged but none is accepted universally. "As a result," Fortenberry noted, "different laboratories were obtaining results on various levels, depending on which check or standard cotton was used to calibrate their instruments.

"As a result of these conditions the International Cotton Calibration Standards Program was initiated. The object is to provide a universal standard level. A secondary objective is to provide data as a basis for establishing practical tolerances for routine test results."

Calibration Cottons

"The initial program called for the selection and preparation of three bales of the American upland type to be used as standard calibration cotton," Fortenberry indicated. The bales selected—A, B and C—respectively represent low fiber strength and high Micronaire value; average fiber strength and average Micronaire value; and high fiber strength and low Micronaire value. Each of the bales was blended and processed to obtain sample uniformity in the following manner.

(1) Remove bale bands and allow bale to expand.

(2) Divide bale into 16 piles of equal quantities, with each layer removed making part of each of the 16 piles.

(3) Open each pile by hand and allow to condition for one day.

(4) Process each pile into a 12-ounce breaker lap.

(5) Feed every fourth breaker lap to picker (four doublings) and produce 16 11-ounce laps (second picking).

(6) Feed every fourth finisher lap to picker (four doublings) and produce 16 11-ounce laps (third picking).

(7) Feed each picker lap (third picking) to card to produce 40 grains of card web at the following rates of carding: (a) 12½ pounds per hour for calibration cottons $\frac{15}{16}$-inch and shorter in staple length; (b) 9½ pounds per hour for calibration cottons $\frac{31}{32}$-inch through $1\frac{1}{16}$-inch in staple length; (c) 6½ pounds per hour for calibration cotton $1\frac{3}{32}$-inch through 1¼-inch in staple length; (d) 4½ pounds per hour for calibration cotton $1\frac{9}{32}$-inch and longer in staple length.

(8) Do not piece up web to calender rolls.

(9) Allow card web to accumulate between doffer comb and calender rolls.

(10) Remove card web as it accumulates and place into large, clean canvas bag.

(11) Cotton packaged into ½-pound packages and labeled ready for distribution.

Test Values

Standard test values for the three original bales of cotton are:

Cotton	Micronaire	Fiber bundle strength (Pressley O Gauge)	
		Strength	
	Reading	Wt. Ratio	1,000 p.s.i.
A—Average	5.5	6.72	72,500
B—Average	4.6	7.46	80,500
C—Average	3.4	8.58	92,600

Check test No. 1 on the calibrated laboratory instruments was run in July 1957. The results of Micronaire tests showed that approximately 77% of the reporting laboratories were within the acceptable limits. Of the 74 laboratories involved, 44.7% reported results identical to the established standard value. The fiber strength test results showed approximately 17% of the 59 reporting laboratories obtained test results identical to the standard value. Some 63% were within the acceptable limit of plus or minus 1,000 to 2,000 pounds of the standard value. This made a total of 80% of the laboratories maintaining an acceptable level of testing.

A second check test, reported in January 1958, showed that of 111 laboratories, 81% were within the acceptable limits for Micronaire. Identical results to the standard sample were reported by 46% of the laboratories. Approximately 82% of the laboratories reported within the acceptable limits for fiber strength tests.

A third check test with 164 laboratories participating showed approximately 85% within the acceptable limits for Micronaire. Identical results to the standard value were reported by 35% of the participants. Of 115 laboratories reporting on fiber strength, approximately 74% were within limits. Some 26% were outside the limits with most of them on the high side of the frequency distribution.

Fourth Check Test

In the fourth check test two samples were used instead of one as in the previous three tests. "Participants of fiber laboratories in check test No. 4 increased significantly as compared to check test No. 3," Fortenberry said. "A total of 187 laboratories sent in results for Micronaire tests on check test No. 4 as compared to 164 laboratories participat-

E. W. S. Calkins, U. S. Rubber Co., was chairman of the first technical session. Speakers on the program were *(left to right)* J. Winston Neely, Coker's Pedigreed Seed Co.; Calkins; George Pfeiffenberger, Plains Cotton Growers Inc.; Dr. Earl E. Berkley, Anderson, Clayton & Co.; and John G. Gaw, Waverly Mills.

ing in check test No. 3. Fiber strength results were received from 138 laboratories for check test No. 4 as compared to 115 laboratories for check test No. 3," he added.

"The deviations in the Micronaire results," Fortenberry said, "were within acceptable limits for approximately 83% of the laboratories reporting for sample No. 1 and 62% of the laboratories reporting for sample No. 2." For the other results of check test No. 4, Fortenberry pointed out that the deviations in the strength results were within acceptable limits for approximately 73% of the laboratories reporting for sample No. 1 and 67% of the laboratories reporting for sample No. 2. He said experience had shown the deviation from the standard value for strength should not exceed plus or minus 0.2 strength-weight ratio, for a properly calibrated testing procedure.

Commenting on check test No. 4's results, Fortenberry noted that the percentage of laboratories reporting results within acceptable limits was lower for both the Micronaire and Pressley tests on sample No. 2 than it was for sample No. 1. This indicates that perhaps the material selected for sample No. 2 was not very uniform. Additional precautions are contemplated to insure more uniform material is used in future check test samples.

Spinning Pilot Plant

Samuel T. Burley of the Marketing Research Division of the Agricultural Marketing Service described the "New Pilot Plant And Work Planned For This Facility." The pilot plant, located in Sirrine Hall at Clemson College, was formally dedicated with brief ceremonies following the Open House. Burley pointed out that the need for a pilot spinning laboratory has been discussed by a number of people for a good many years. "During these past few years," he said, "there has been a rapid change in the technology of gin operation in the cleaning and conditioning phases of cotton. Mill operators report that possible compounded application and misuse of such gin equipment sharply reduces the spinning performance of cotton, thus increasing processing costs and lowering the value of finished products."

THE OLD COOTS—Cotton's Original Old Technologist's Society, the COOTS, got together for a few minutes at the A.C.M.I.'s Open House. They have been in fiber testing since you could buy a good car for $500 and a gallon of prohibition liquor for $4.00 (and they still maintain that this was all you needed in those days).

Membership in the fun and social organization is limited to those persons having 25 years or more continuous work in cotton fiber research. The society currently has about 25 members. The president of the society is Dr. R. W. Webb, U.S.D.A. Burt Johnson, National Cotton Council, is the secretary and George Pfeiffenberger, Plains Cotton Growers Inc., is the treasurer. The Coots are planning to organize a ladies' auxiliary known as "The Cooties."

Coots shown here are *(standing, left to right)* E. W. S. Calkins, U. S. Rubber Co.; W. S. Smith, West Point Mfg. Co.; John Wiginton, A.C.M.I.; William J. Martin, U. S. Extension Service; *(seated, left to right)* W. R. Marsden, Bibb Mfg. Co.; Earl E. Berkley, Anderson, Clayton Co.; Mr. Pfeiffenberger; and A. J. Johnson, Lummus Cotton Gin Co.

The chairman of the final technical session was William J. Martin, U. S. Extension Service *(far left)*. Speakers on the program were *(left to right)* O. K. Nivens, Avondale Mills; John Ross, Agricultural Marketing Service, U.S.D.A.; William H. Fortenberry, A.M.S.; and S. T. Burley, A.M.S.

A representative of A.C.M.I. proposed the establishment of a pilot laboratory in August 1957 based on these complaints and technological changes, according to Burley. "An agreement was developed with Clemson College and plans for establishing the pilot plant were completed in the Spring of 1958. Orders for the necessary carding and spinning equipment were placed in the latter part of June 1958," he added.

The spinning portion of the laboratory will operate 1,008 spindles. The new equipment includes four standard carding machines, one high speed drawing frame, one roving frame, and four spinning frames. A complete opening and picking line supplied by the School of Textiles, Clemson College, will be used jointly by the pilot plant and the school. The fiber testing laboratory located at Stoneville, Miss., has been moved to Clemson and will be of service to the pilot spinning plant.

Burley outlined U.S.D.A. research projects some of which are planned for the installation.

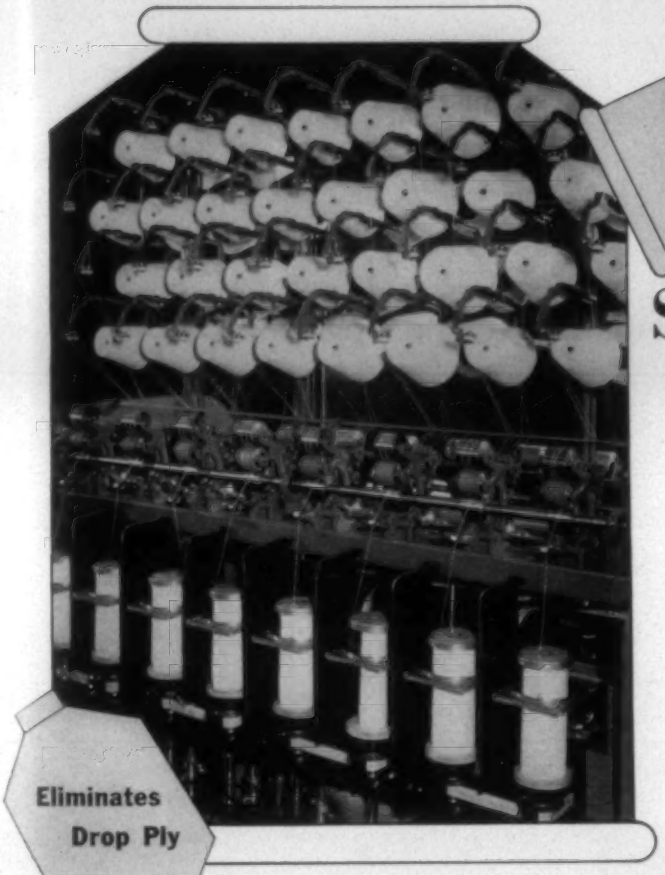
(1) Investigations of the properties of the cotton fiber and how they correlate with spinning, weaving and finishing performance.

(2) Better, more rapidly and commercially practical means of measuring all important properties of cotton, particularly those not now being measured even reasonably satisfactorily.

(3) Short-cut spinning and other processing procedures for measuring the spinning, weaving and finishing performance of cotton and for correlating these performances with the laboratory and commercially used methods of measuring the properties of cotton.

(4) Better measurements of effect of production, harvesting and ginning practices on the properties of cotton and their effects on the manufacturing performance of cotton.

"Other spinning performance tests being contemplated for the pilot laboratory in the near future," according to Burley, "involve the spinning evaluation of: (1) flame-retardant treated cotton; (2) blends of cotton of contrasting fiber properties; (3) an accelerated ends-down test; and (4) carding cleaner developed by S.U.R.D.D."



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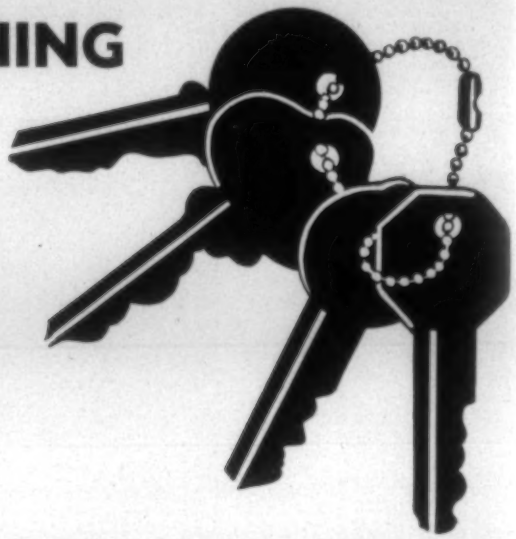

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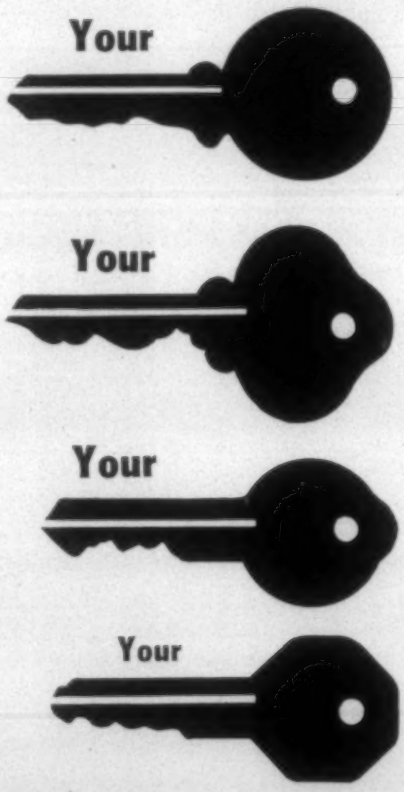

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Why Modernize Spinning?

By BAYNE KEEVER, F. A. Young Machine Co., Gastonia, N. C.

AMERICAN industry has always been interested in doing things bigger, better, faster and cheaper than anyone else. This is and has been the driving force behind the tremendous progress our country has achieved. The textile industry, contrary to thoughts in some quarters, is no exception to this rule. Manufacturers are experiencing a renewed vigor in the soft goods market and alert mill men are making plans to insure themselves of a fair share of this revitalized market with new and modernized machinery to produce the top quality goods required by the consumer. There is no cheap, second run market today. Even such staple items as prints and sheetings in the lower grades have a standard of uniformity unheard of a few years ago.

How then has such uniformity been maintained at little or no increase in cost? Primarily, through systematic modernization plans within the industry. Modernization today includes a variety of items such as quality control and waste instruction programs, special cleaning devices and so on. We are concerned with the modernized machine itself and mention the others only to point out the necessity of a well balanced program. Very often one program will dictate the use of another to achieve the end result—a quality piece of goods at the lowest possible cost.

Many mills, however alert, often are faced with the prospect of sufficient orders (if the quality is right) at a price which leaves too small a margin of profit for comfort. The cost of new spinning may be prohibitive to them and in most cases there is a waiting period of several months in delivery. The alert management group therefore takes a second look at their frames and ask themselves this question: "How can we 'fix up' these frames, immediately, to produce the quality demanded by our customers, yet leave us a margin for a profitable run?" A good question! It is one we take pleasure in answering almost every day.

Basic Design

The spinning frame has changed but slightly in its basic design in quite a number of years and therefore is readily adaptable to change in varying degrees from a simple drafting element changeover, costing as little as $2 to $3 per spindle, to a complete overhauling and revamping job from the floor to the creels costing $20 to $25 per spindle. This latter cost is only one-half the cost of a new frame and will perform equally as well as the frame just off the production line.

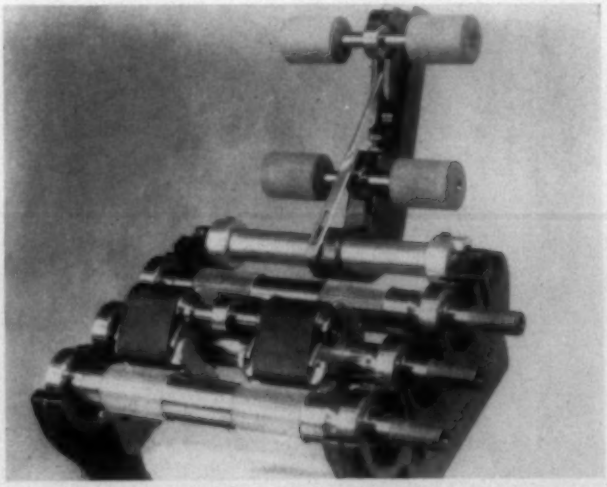
Aside from the initial cost savings, bonus advantages of the modernized or rebuilt frame are: (1) only one frame at a time need be removed from production and the mill's own crew usually can do the remodeling themselves; (2) only the most pressing items need be changed with other changes being budgeted for later dates; and (3) modernization jobs may be expensed rather than capitalized. One mill of our acquaintance has calculated that it can amortize ¼ million dollars worth of spinning modernization in 40 months with direct labor savings alone.

Oftentimes, savings pop up in unexpected places such as being able to use shorter staple cotton and still maintain the required uniformity of break and evenness, and the reduction of card room machinery due to higher drafts. One mill in which we recently installed a drafting changeover increased its draft from 23 to 56 and removed all second process fly frames. Its quality improved and its costs were substantially reduced by the elimination of the speeders. Along with a 100% increase in spinner side assignments, ends-down were cut in half. These are only a few of the savings this mill realized.

Increased Business

Naturally enough, it stands to reason that the one final bonus the modernized mill might enjoy would be increased business once it becomes known that a higher quality product is available for the same or even a lower price.

As stated earlier, a frame may be modernized in a series of steps in order to spread out costs over a period of time suitable to the mill's budget. Generally speaking the major points to consider when modernizing are listed below. These



The F. A. Young drafting element is completely anti-friction, top and bottom. It is capable of drafts up to 60. A screw driver, an Allen wrench and a drift punch are all that are required to completely dismantle or replace any part. A specially designed middle knurled roll allows up to three-inch staple to be run without changing bottom roll settings.

are not necessarily listed in order of importance since this is a decision of the management group.

(1) Umbrella type, lint free creels, with ball bearing bobbin holders. Usually constructed of aluminum extrusions (except in the case of F. A. Young Machine Co., that uses rust-proofed steel split tubing, designed for rigidity and a cleaner open creel; with a more positive mating surface for bobbin holder steel lock washers). Cast iron arms and steel tubing supports complete the structural picture of the average creel.

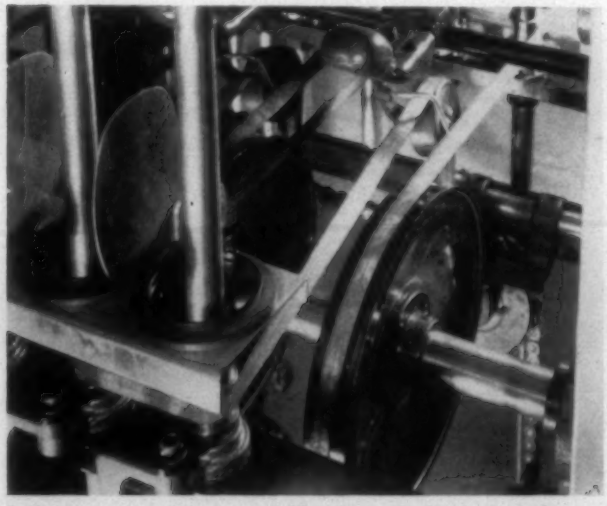
Umbrella creels usually come first in the order since they are often a requisite to accommodate the increased size of the roving bobbin which has been a forerunner of the spinning room modernization. At this point we would point out that good yarn cannot be made from bad roving. Therefore it stands to reason that if the card room is weak, it should be strengthened before modernization is begun in the spinning room.

Naturally the open creels are more versatile in the ability to accommodate several size roving bobbins and require little or no cleaning especially where an overhead blower is employed. The change on this one item often will allow a mill to increase side assignments up to 20% and may therefore be amortized in a very short period of time.

(2) Replacing the drafting element is one of the most vital areas to consider when modernization is planned. This is where the yarn is made. Greatest care and thought should proceed the selection of this equipment. All major drafting systems on the market today are of the two apron type and may be either the wooden neb or anti-friction (ball bearing) type saddle and suspension system. A wide variety of designs within these categories are available and it is the wise mill man who considers these facts before spending his or the stockholders' money.

(a) Is the system of rugged construction?

(b) Is it simple in design and therefore easily disassembled for repair and adjustment at the mill by mill personnel?



Ball bearing spindles are capable of speeds far beyond that required for spinning. Pressed steel pulley drives and tape idlers are mounted on ball bearing shafts that never require maintenance and will never wear out. The bearings require grease only once yearly.

(c) Has it proved itself in actual operation and for how long?

(d) Is the system limited in staple lengths it will handle? If so, what are the limitations?

(e) What are the proven yarn results on the system?

We could not pass over a discussion of drafting systems without mentioning one of the most important components of the entire system itself and that is the steel bottom rolls. We recently concluded a series of tests to find out what happened to quality for every .001" variation in indicated runout of the top and bottom roll. As suspected, Spectrograph tests clearly established on the graph a gradually ascending indication of "out of round." This was further proved by blackboard tests with each added .001" showing the more positive yarn pattern.

Prior to just a few years ago, .003" total indicated runout was considered adequate for spinning good yarn but recent advances in high drafts (50 to 60) will not allow this much runout. F. A. Young Machine Co. in 1956 established .002" total indicated runout as its guaranteed maximum and at our present rate of advance it is not inconceivable that .001" will be the accepted standard in the near future.

(3) Install anti-friction spindles and replace band drive with tape drive. We have included these two items as a unit simply because if a mill still has band drive and changing to tape drive is contemplated, the installation of anti-friction spindles would be a wise move at the time of change.

Anti-friction spindles are easier to maintain, require little or no oiling and run at considerably higher speeds without vibration. Many mills of our acquaintaince are running at 12,000 r.p.m. with some few running experimentally at even higher speeds. Their limit is held to the limits of traveler speeds.

(4) Install high speed rings. Now that full anti-friction drafting and gear drives have been proven satisfactory, this leaves the limit of speeds on the rings and traveler. For years the rule of thumb has been for spinners, "a mile a minute" on traveler speeds. This idea is rapidly being discarded due to the dramatic advances in the treatment of steel for rings and travelers. Several ring manufacturers have rings allowing speeds in excess of 6,000 r.p.m. with little or no reduction in traveler life. We have experimentally operated up to 7,200 r.p.m. with one such ring on our Vertical Y drafting system with little reduction in traveler life. Generally speaking since higher speeds are the key to a reduced spinning cost, then installation of high speed rings will often produce the extra r.p.m.'s required in the mill with fewer other immediate improvements necessary.

(5) Vacuum end-collection and overhead blower type cleaning. We have grouped these two as a unit because usually neither is used in the mill requiring modernization. Both should be installed together because manufacturers of this equipment will often be able to do this work for much less cost when both are ordered simultaneously. Where one is already installed (which almost always is an overhead blower) it is generally obsolete and does an inadequate job of cleaning. It is a modernization program of its own accord.

We are of the opinion that, from a quality standpoint,

this aspect of modernization is too often overlooked. It is natural where a mill has limited funds to consider only those items conceded to be the hard core of spinning; namely, drafting, rings and creels. However true this may be, we would like to point out that the manufacturer sincerely interested in his customers' improved product, will be happy to see an up-to-date overhead cleaning system installed. After all, it is going to keep his creels clean, his drafting system free of slub-forming waste and his rings free from traveler loading lint, thereby providing the maximum output of each of the other components.

The simple construction of these node control rings offers minimum surface for catching lint. The hard chromed rings are mounted on rust-proofed stud tubing. The "flipped back" position shown is achieved by a simple foot lever.

Vacuum end-collectors have many advantages; cleaner front rolls, less lint and fly at the drafting zone, elimination of lap stick cleaning, and central waste collection to name a few.

(6) Increasing traverse and/or ring size. Here again two separate phases of modernization possibilities are grouped together because one usually is an outgrowth of the other. However, where the mill's ring size already is from about 2¼-inch to 2½-inch this may not necessarily be so. Nevertheless, we cannot talk about one without considering the other, if for no other reason than securing a good bobbin build that will not slough off in the winding room.

Large package spinning, although not entirely a recent development, is just beginning to come into its own. This is primarily due to such developments as ball bearing spindles and other anti-friction features allowing increased speeds with smoother operating characteristics. However, unless the mill's frames are already of a wide enough gauge and possess certain other features previously mentioned, or unless its winding costs are out of line, then these two modernization possibilities might be delayed without undue losses in immediate cost reductions. All too often we tend to over-emphasize large package spinning thereby distorting its true value. Each case must be considered in its proper perspective.

(7) Node or balloon control rings. This particular feature made its appearance only a few years ago and in certain instances has been a valuable aid in helping control yarn ballooning thereby reducing fuzziness in the yarn at higher spindle speeds and reducing ends-down due to throw-overs. The node ring is primarily found on frames with large packages and/or long traverse, or where base-rail to roll-beam setting is high, in anticipation of going to a longer bobbin and traverse.

Although no fixed standards are available or accepted in this respect if bobbin length is over ten inches, or base-rail to roll-beam setting is over 16 inches and ring diameters are 2½ inches and up, node rings should be seriously considered. A 12-inch bobbin will, without exception, require a node ring.

Node rings may be of single or double ring construction depending on the manufacturer. We are of the opinion that a single ring provides sufficient control. However we have no argument with those who prefer a double ring and would appreciate comments on this, since our experience with double rings has been limited. In any event it is always best to call in an engineer to determine if such an installation is possible, since some frames will not accommodate a node control mechanism.

Many Possibilities

As the above items would indicate there are a vast number of avenues possible for modernization of the spinning frame. Again, we point out that the age of a frame alone is of little consequence in determining the modernization techniques applicable to that machine.

We mentioned, earlier in this article, one mill that modernized its own frames. Briefly, this is what the mill accomplished and without a corps of skilled mechanics.

Its 1870 model Saco-Lowell 2¾-inch gauge frames were changed to 3¾-inch gauge (three frames were used to make two).

Umbrella type creels and anti-friction drafting was installed at the time of rebuilding, along with ball bearing cylinders and idler pulleys.

Ring size was increased first from 1¾ inches to 2¼ inches then later to 2½ inches when new spindles were purchased and the traverse was increased at the same time to 9 inches from 7¼ inches.

Vacuum end-collection and overhead cleaning was installed at time of rebuilding.

This mill also has plans for renewing all the old head-end gearing with complete anti-friction type studs and chain drives to jack, lay and front roll gears. This final step will complete one of the most unusual modernization programs it has been our privilege to witness.

The result of this has been a 40% cost reduction that this mill has passed on to its customers and, in turn, has been rewarded with ample business to insure steady running for months to come. The mill's quality improved 18% and its break factor nearly 20%. It has been able to use a shorter length staple cotton at the same time for another bonus savings.

So it becomes increasingly apparent that every mill

should take a good long and hard look at its present equipment before deciding to sell it to the nearest foundry.

A Young Installation

The Borden Mfg. Co.

Goldsboro, N. C.

BACK in 1956 The Borden Mfg. Co., Goldsboro, N. C., modernized its spinning room to increase drafts, to allow the card room to make fewer counts of roving, to improve yarn quality, and to increase both spinning and roving production. The spinning frames were equipped with F. A. Young Machine Co.'s NYAF changeovers.

The mill now spins yarns with a draft of from 22 to 32 using 1.00, 1.40 and 2.00 h.r. on its 20,200 spindles. For an average count, 20s with knitting twist, the front roll speed is 155 r.p.m. and the spindle speed is 7,100 r.p.m. Ends down per thousand spindle hours averages in the 20s.

The mill uses Parks-Cramer and American MonoRail overhead and underframe cleaners. The only cleaning done by spinners is running out the thread boards and brushing the spindle and base rail. Specialized cleaners do the other cleaning tasks. The spinner's job is to keep the ends up, creel and patrol.

Borden Mfg. Co., Goldsboro, N. C., drafts from 22 to 32 on its modernized spinning frames. An average count, 20s with knitting twist, is run with a front roll speed of 155 r.p.m. and a spindle speed of 8,100 r.p.m.

The modernization was done with a mill crew of one overhauler and three helpers. This crew was trained by the F. A. Young erector. The mill crew did the bulk of the modernization themselves and completed and started up about two frames per week.

The changeover consisted of moving the one-inch front roll to the back roll stand. F. A. Young supplied new one-inch front and middle rolls, saddles, aprons, stirrups and all drafting gears. Head gears were not changed. The roll stands were milled out to take ¾-inch roll necks in the mill's machine shop. Ball bearing rolls made possible a horsepower saving but the mill has not definitely set this figure.

This was part of a spinning frame modernization which included an increase in spinning package size. Ring size was increased to 2¼, 2½ and 2¾ inches. The stroke is nine inches. The mill has 10x5 and 12x6 roving frames. Seven of the spinning frames have umbrella creels.

A Young Installation

Morehead Cotton Mills

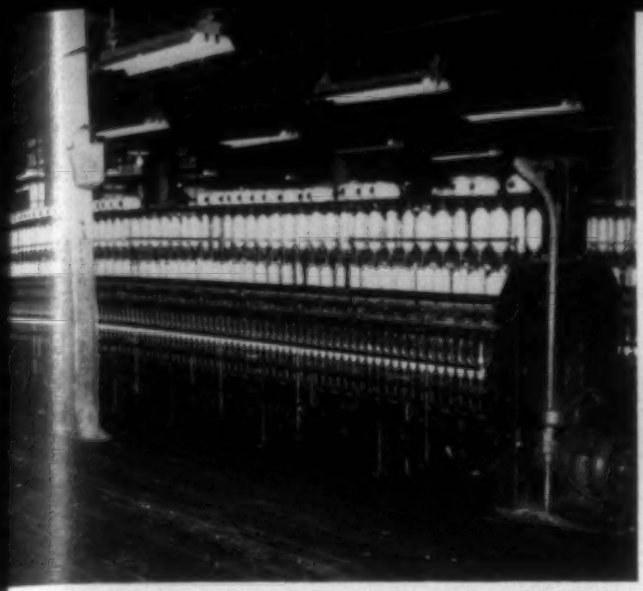
Spray, N. C.

MOREHEAD Cotton Mills, Spray, N. C., is installing F. A. Young Machine Co. spinning frame NYAF changeovers on Saco and Pettee Machine Shops Model 1870 frames. The frames originally had a five-inch traverse but this was lengthened to seven inches about 14 years ago. In the latest changeover the mill is lengthening the traverse from seven to nine inches. The two-inch rings are being replaced by 2½-inch rings. This is permitted by increasing the frame gauge from 2¾-inch to 3¾-inch. The total package weight is increased by these measures from three to seven ounces.

The old frames had wooden creels and thread boards and conventional three-roll drafting elements. One and one-half old frames rebuilds into one new frame. With the F. A. Young NYAF changeover a draft of 34 is run on 20s yarn. The mill gets its creels, drafting elements, 45-degree roll stands, ring rails and top base rails from F. A. Young. Bahnson Cross Jet frame cleaners are used as well as the Bahnson vacuum ends-down collection system.

The mill reports that the ball bearing steel rollers supplied in the changeover have eliminated the need for roll picking. When new, steel roller bearings bleed for a short period of time. After that, however, there is no oil present around the rollers and lint is not attracted. The mill plans to overhaul the frames every four months and lint build-up is not sufficient during this period to warrant picking the rollers.

At overhauling time the mill takes off all aprons and washes them in a washing machine using an ordinary



Before modernization the frame had seven-inch stroke, 2¾-inch gauge, two-inch rings, total package weight of three ounces, wooden creels and thread boards, and conventional three-roll drafting elements.

detergent to remove any gums which may be present. A frame of aprons is held ready to install on an overhauled frame to get it started up quicker. At the time of their washing, the aprons are inspected and worn ones are replaced. Top rolls are buffed at overhauling time.

In over 10 million spindle-hours of operation of the F. A. Young NYAF changeovers, the mill reports that it has had only five bearing failures. All of these bearings were on steel rollers. Two of the five had defective balls.

Because the mill wants to "keep the frames clean" rather than "clean the frames" the Bahnson Cross Jet cleaners operate over only eight frames each. Dirt and lint simply do not accumulate with this much cleaning action going on continuously. The mill uses 30 m.m. cradles to allow the cleaners a wide opening to blow through. An appropriately cut and bent piece of sheet metal has been added to the cleaner which directs a flow of air into the bobbin holder. Holders never get choked with lint and fly. The mill has not had an end-down from a stuck-up holder in over two months.

For an average count, 17s, the mill's current break factor is 2,200 for a 100% cotton mix. The traveler speed on conventional rings is 6,600 f.p.m. Spinning ends-down testing thus far (not completed at this writing) averages about 15 to 18 ends-down per thousand spindle hours.

Labor Savings

Before changing, the mill had 10,752 spindles. It used 36 spinners, nine doffers, three roving haulers, three section men, and two oilers and banders. A total of 53 people.

After completing the change the mill will have 9,600 spindles. These spindles will require four spinners; two doffers; one combination bander, sweeper and oiler; and a section man per shift. This totals 24 employees for three shifts. The frame improvements will net a 55% reduction in labor force in the spinning room.

The labor savings are made possible by better running frames and bigger packages.

Other package size increases done by Morehead Mills includes: (1) cards, from 12x36-inch cans to 15x42-inch; (2) drawing, from 12x36-inch cans to 15x42-inch; and (3) roving, from 9x4½-inch package to 12x6-inch and current plans call for increasing this still further to 12x7 inches. The 12x7 package will hold 60 ounces of roving.

Ball bearing frames allow savings in horsepower necessary to drive frames in spite of the bigger packages. The mill did use 7½ h.p. motors to run 224-spindle small package frames. Motor tests showed that the frames were using the full 7½ h.p. The ball bearing frame has 240 spindles with over twice as heavy a package but they are being driven by the same 7½ h.p. motors. Moreover, tests on the motors show that they are operating at only 5 to 5½ h.p. The same size motor runs more spindles with less power.

When building a frame, the mill fills up all the 2¾-inch gauge holes with a product called Smooth-On. Holes for 3¾-inch gauge are drilled with an electro-magnetic base drill which has 2,000 pounds holding power in the base. This amounts to the use of a portable drill press. All holes are jig drilled. The jigs are built so that overhaulers have to measure nothing.

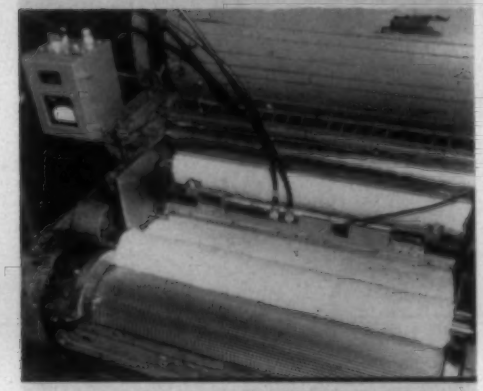
The work of overhauling has been simplified so that the crew of five or six can change over and start up a frame every four days. This crew contains no men with previous fixing or erecting experience except a spindle plumber.

Morehead uses nylon spinning tapes instead of cotton and reports that it has less variation in spindle speed as a result. Spindle speeds are checked by use of a Strobotac. Conventional spinning cylinders have been replaced with ten-inch plastic pulleys made by Meadows Mfg. Co.

Frames are mounted on pads with a special footing. This mounting reduces vibration. Motors are mounted on the frames also to reduce vibration and to provide a base which has a long enough slot adjustment to allow the use of one set of V-belts for all pulley diameters. Ends-down collectors are mounted recessed into the frame with air dispersal at the top and bottom. Bottom air dispersal is directly over the motor and pulleys, keeping them free of lint and dirt.

After modernization the frames have nine-inch traverse, 3¾-inch gauge, 2½-inch rings, total package weight of seven ounces, open creels, Bahnson Cross Jet cleaners, Bahnson vacuum ends-down collection systems, and the advantages of F. A. Young drafting elements.

VARIMETER
Picker



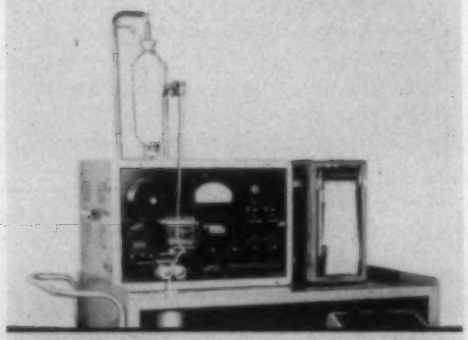
What should then

Here is your check list:

★ AT THE PICKER...

The Uster Varimeter polices the lap inch by inch, indicates irregularities, offers continuous lap control, reduces neps, pinpoints mechanical faults, gives better control of yarn sizes with fewer doublings, reduces gear changes in processing. An inch of picker lap drafts into yards of finished yarn. Control of the lap automatically insures greater efficiency in later stages.

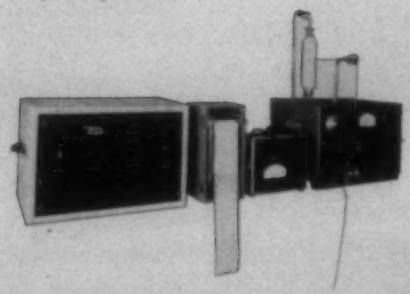
EVENNESS TESTER
Card
Drawing frame
Roving frame
Spinning frame



★ AT THE CARD...

The Uster Evenness Tester offers precise scientific methods of controlling variations in the sliver. Mechanical difficulties in the card and card clothing show up quickly to improve production of the card. Sliver irregularities are indicated, neps are reduced, faulty settings and mechanical irregularities are revealed. Control of sliver mass makes for smoother operation throughout manufacture.

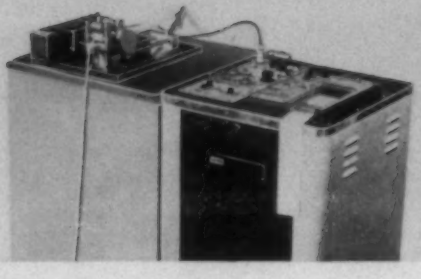
SPECTROGRAPH
Card
Drawing frame
Roving frame
Spinning frame



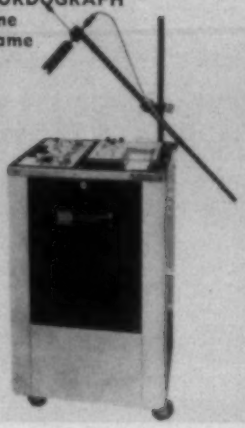
★ AT THE DRAWING FRAME...

The Uster Evenness Tester, Uster Spectrograph and Uster's West Point Cohesion Tester team up to spot mechanical troubles, define proper blend and drafting

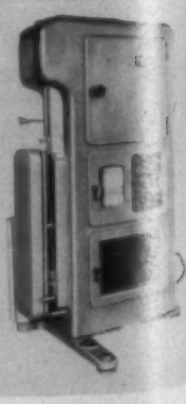
COHESION TESTER
Drawing frame



TENSION RECORDOGRAPH
Roving frame
Spinning frame
Weaving
Quilling



STRENGTH TESTER
Spinning frame



modern textile lab DO?

characteristics of blend and allow critical control, predict effect of roll spacing, bi-directional drafting, humidity, draft. Prove production machinery settings, mechanical conditions of machines, short to medium to long term variations. Fast, accurate testing is accomplished at the drawing frame.

★ AT THE ROVING FRAME...

Uster Evenness Tester and **Uster Spectrograph** point out improper drafts, settings and weightings. Here is the latest concept in evaluating short, medium and long term variations that determine precise quality control. Machinery settings are verified; mechanical faults are exposed. **Uster's West Point Cohesion Tester** eliminates numerous tests for fibre fineness, fiber length, surface characteristics, wax content, etc. Achieves optimum twists. **Uster's Custom Tension Recordograph** allows control of speed, most critical factor in production.

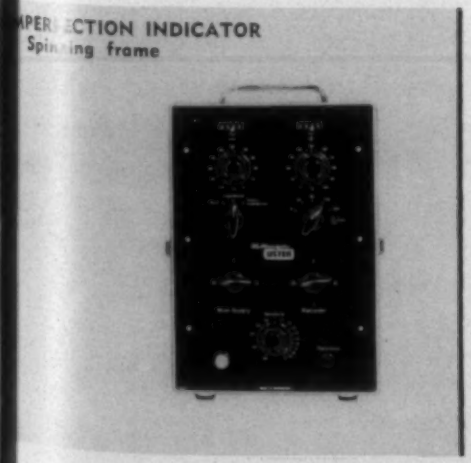
★ AT THE SPINNING FRAME...

Uster Evenness Tester and **Uster Spectrograph** work together for fast and effective control of variations to give an accurate picture of final fabric appearance.

Uster Strength Tester registers individual values of breaking strength and elongation, sum of breaking strength and elongation and frequency distribution of breaking strength. 5, 10, 20, 40 tests per bobbin eliminate 90% of technician's time in single strand testing. **Uster's West Point Cohesion Tester** predicts drafting properties of synthetic, natural and blended staples. **Uster's Custom Tension Recordograph** shows up bad skewers and defective bobbin holders, reveals heavy travelers and grooved rings, produces extremely accurate adjustment of winder tension. Tension control in spinning, twisting, winding and spooling becomes critical as production is speeded. **Uster Imperfection Indicator** shows high and low count at any instant. Weak spots, excessive peaks, heavy spots and nep count in sample are easily shown. Yarn is inspected automatically.

★ WEAVING AND QUILLING...

Uster's Custom Tension Recordograph enables warp to be run with less tension, thereby improving the face of the cloth. Detects cause of faulty patterns from whip roll through take-up motion. Eliminates broken picks, filling bands, due to improper shuttle tension. Allows optimum tension settings with less expensive nylon loops. Allows 50 to 60 yards more yarn on each quill.



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The LOOMFIXER And His Job

Part Six

By WILMER WESTBROOK

A loom drive must transmit power from the motor to the loom with a minimum of slippage and must be resilient enough to withstand the shock of sudden starts and stops. As a rule, the loom drive requires little attention but it should be included in the preventive maintenance schedule.

The belt and pulley is the oldest type of power loom drive and one that is still used in some mills. Maintenance of the belt and pulley drive consists of keeping the belts clean and tight and the face of the pulleys clean and free of oil and grease. All connections from the shipper to the belt guide should be kept tight and well-lubricated.

The disc friction drive is used with an individual loom motor and it is also used in some mills in conjunction with a belt and pulleys. The friction plate for this drive is lined with cork inserts and they should be kept free of oil and grease. Under normal use the inserts will give several years of service. When it is necessary to reline the clutch plate the inserts can be pryed out with a screwdriver and new corks driven in with a light hammer without removing the plate from the loom. The edge of each cork insert should be slightly beveled with a sharp knife so it will start easily without chipping. Some loomfixers dip the ends of the corks in glue before inserting them in the plate but this practice is unnecessary if the corks are of the correct size.

Prevent Slippage

The friction pulley has an adjusting screw that should be tightened just enough to prevent slippage between the friction gear and the clutch plate. If the adjusting screw is run in too far it will cause the loom to creep when the shipper handle is in the off position and may cause injury to the weaver or other worker. The motor will overheat if the clutch is adjusted too tightly and a fire or other serious damage to the motor or to the loom can result.

This installment deals with the proper operation of various types of loom drives. The author describes the method for replacing friction plate cork inserts and reviews the sequence of operations in setting the No. 3 Draper-Diehl power transmitter.

The dry disc clutch is a more efficient drive than the disc friction type because all elements are locked into position during operation and there is no friction between metal parts. The earlier models of the dry disc clutch had cork inserts in the clutch plate. These inserts required frequent replacement because they would wear and become loose in the plate. Solid cork discs glued to each side of the clutch plate are much more efficient and have replaced the cork inserts in most mills that have this type of loom drive.

To get the correct friction on the dry disc clutch, tighten the fingers on the driving clutch cone until the cone can be pulled outward by hand with the fingers resting in the flat part of the cone with no lost motion. The friction gear, the clutch plate, and the driving clutch disc are thus locked into one revolving assembly.

Power Transmitter

The newest loom drive is the power transmitter. This drive has the motor and clutch combined in one integral unit. The power transmitter must be set to very close tolerances. To set the clutch of the No. 3 Draper-Diehl transmitter, have the shipper handle in the off position and turn the two adjusting screws until the clutch gap is closed. Then back off both screws evenly about $1\frac{1}{4}$ turns. There should be a clearance of about $\frac{1}{16}$-inch which will increase slightly with wear. This setting should be checked periodically with a feeler gauge and adjusted to compensate for wear.

Loom speeds should be checked periodically with a tachometer or a stop watch to keep the drives operating efficiently.

Motors and drives should be kept properly lubricated. Care must be taken in doing this to see that oil and grease is kept off the clutch face.

The clutch pressure of the power transmitter must also be set closely. Setting is made by loosening the check nuts at each end of the shipper connection. With the shipper handles in the on position, turn the connection until the correct gap is obtained. The gap should be .010 to .015 inches.

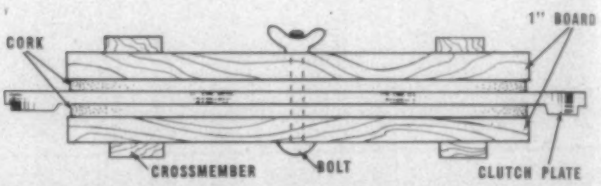
The maitenance of loom drives will take very little of the loomfixer's time if he will plan ahead. Spare clutch plates, equipped with new cork facing should be kept on hand. Cork discs must be attached to the clutch plate with glue. This glue will set in four to eight hours, depending on atmospheric conditions.

Glue Discs And Plate

A simple press can be made to hold the plate while the glue drys and it will insure a good bond between the cork discs and the clutch plate. The press consists of two pieces of one-inch board with cross members to prevent warping. A hole drilled through the center of the boards takes a long carriage bolt. A wing nut screws on the bolt to compress the boards tightly with the cork-covered clutch plate sandwiched between them. The loomfixer should keep at least one of these clutch plates fitted with new cork discs at his work bench so that a worn plate can be replaced with a minimum of loom downtime.

An easy and quick way to check a loom drive for slippage is to remove the shuttle from the box and pull the lay forward until the daggers contact the frog steels. Pull the shipper handle gently toward the on position until the motor stalls. If the motor continues to run there is some slippage and the clutch should be tightened or the clutch plate may need to be cleaned or refaced.

Each loom should be checked periodically with a tachometer or stop watch to see if the speed is up to standard. A few picks per minute of substandard speed can mean 1% or more of lost production for the loom. All connections of the loom drive should be kept well-lubricated but care should be taken to keep oil and grease from the cork discs, inserts, or the belts of belt-driven looms. Oil and grease not only cause inefficient operation but will also cause the cork or leather to deteriorate.



This shop-made wood press holds cluttch plate and cork discs firmly in place while the glue dries and sets. The press is made of one-inch board with cross members to prevent warping. It is held together, under pressure, with a long carriage bolt and a wing nut.

The transmitter gear of power transmitters should be checked at least every three months to see if the gear teeth are worn at the picking position. When the teeth become worn the gear should be rotated 45 degrees by removing the four bolts in the transmitter gear hub. If the hub has 12 holes the gear can be rotated 30 degrees to move the worn teeth from the picking position.

The experienced loomfixer knows that it is to his own best advantage to keep his loom drives in good condition. An inefficient drive will add to his work by causing slam-offs, break-outs and the breakage of loom parts as well as damage to the drive that must be repaired sooner or later.

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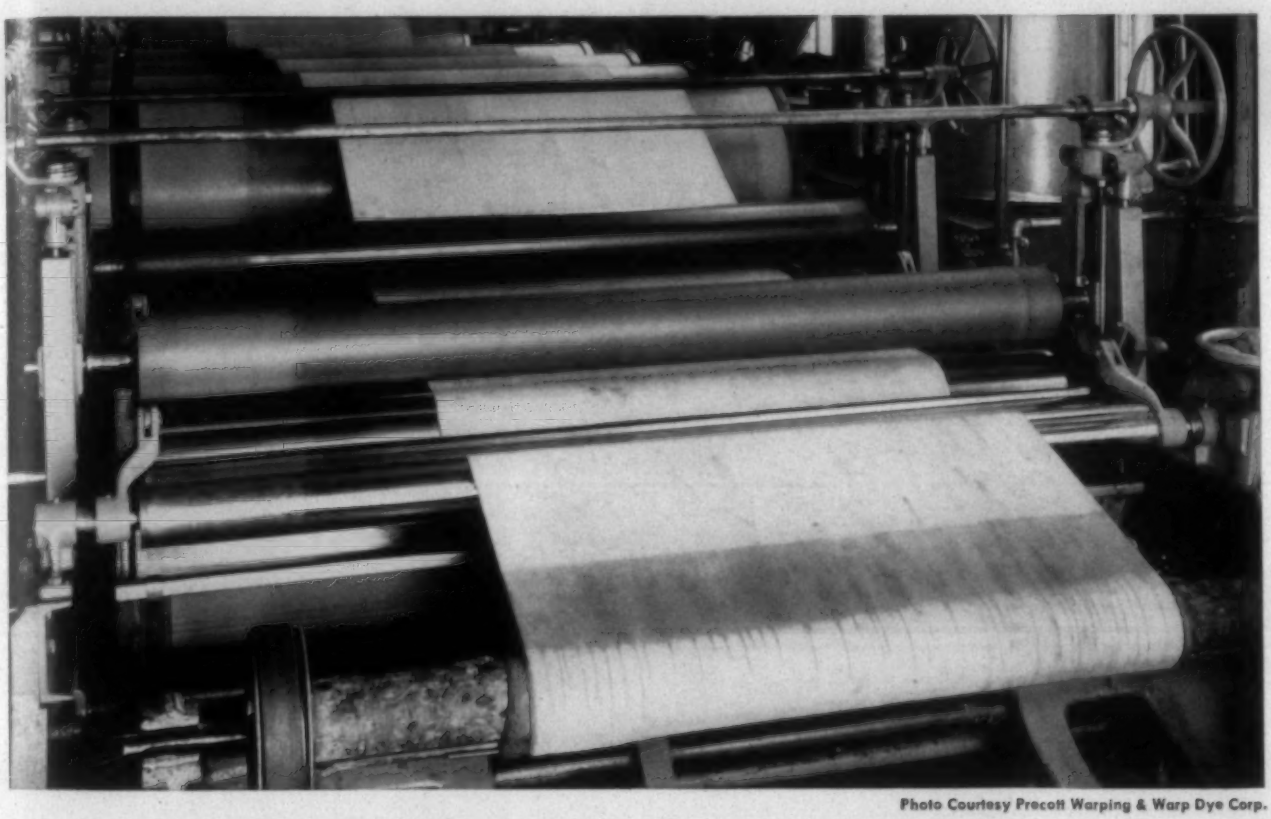

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Acquiring Modern Facilities

PART I

How an old mill was modernized

By H. M. ROGERS*

THE basic justification for new construction in modernizing an outdated mill is to improve manufacturing and finishing processes, to facilitate their execution, and to retain in large measure the usefulness and worth of existing structures. Alteration and modernization in projects of this type frequently present problems seldom encountered when starting an entirely new plant and this is especially true when production must be maintained during the remodeling operation.

A good example of a major modernization program is one carried out recently at a Southern cotton mill engaged in the manufacture and finishing of denims. This plant was very old, built in two or more separate steps, and had 23,000 spindles and 698 looms in operation.

As the result of growth and additions made over a long terms of years, the plant consisted of two complete and independent spinning and weaving mills, each supplied with cotton from the same inadequate storehouse, and both being served by a common slasher room, a long chain dyeing department, and a raw stock dyehouse. These last three departments were located in a separate building from the two weave rooms.

As very little money had been spent on the plant for many years, the mechanical and electrical services were inadequate. Practically all machinery was belt-driven in large groups. Light and power wiring were far below minimum standards and the humidification system was a series of old individual heads with little control. Cards were hand stripped; the looms were belt-driven Model E's with central d.c. stop motions and slashers were a long distance from Mill 1's operations. Labor costs were high, partly beause of extra handling, supervision was difficult and it was difficult to get a product of uniform high quality.

What To Do?

In the face of these conditions, the question was whether to replace the capacity by an entirely new plant or whether to undertake a major modernization. Careful estimates showed that a satisfactory modernization could be carried out for about one-half the cost of a completely new plant, and that the old plant could be kept in operation during the reconstruction.

The main features of the plan adopted were:

(1) A completely new weave room building was constructed to house the 700 looms.

(2) The larger of the two old mills was converted into a single carding and spinning mill, requiring some additional space which was secured by a one-story addition at one end.

(3) The smaller of the two old mills was converted to finishing operations only.

(4) The old dyehouse was renovated and warp yarn preparation, yarn dyeing, beaming, slashing and tying-in were located in this building and an extension to it which directly connected to the new weave room.

(5) Cotton storage was increased by the building of a new storehouse.

(6) All mechanical and electrical services were overhauled and brought up to modern standards.

Cotton Storage

The first new construction was warehousing for cotton storage. This construction is wood and steel framing, galvanized iron siding on wood, brick pilasters and firewalls, clear spans of 40 feet between columns, plank roof deck with tar and gravel top and a six-inch reinforced concrete floor poured on four inches of packed gravel, on a five-foot

This is a combination paper, representing what may be considered the extremes in acquiring modern facilities for textile operations. In one instance an old, outdated cotton mill is altered and modernized. The second example, to be published next month, is a completely new finishing plant on a new site in a new community. The articles are taken from a paper delivered before the American Society of Mechanical Engineers' Textile Engineering Conference, March 12-13, at Clemson, S. C.

* Lockwood Greene Engineers, Inc., Greenville, S. C.

compacted earth fill. All footings rested on this fill as load tests indicated the soil bearing values as being more than adequate for the fill.

The ceiling is 19'6" high and permits the use of mechanical handling equipment for maximum vertical storage in this case the bales are stacked five high.

Single Story Addition

The old mill No. 2 had a single-story addition added. This entire first floor area of the new extension and the old mill became a picker room, dust room and card room. The single-story extension of old mill 2 for carding is designed to carry a second floor in the future and the roof of the addition is four-inch splined plank deck with tar and gravel, without insulation.

All windows in the old mill are bricked up for those areas such as carding and spinning, in which air-conditioning and controlled conditions of humidity were to be added. This serves the dual purpose of removing a source of high maintenance and improves the U-factor of the walls. Had the windows not been bricked up there would be spotty conditions in the room and the glass would sweat.

The second and third floors of the old mill then became filling and warp yarn departments, respectively. Filling yarn is taken by overhead conveyor across the mill yard to the new weave building. The same conveyor system on return trips brings cloth rolls back to old Mill 1 which was converted to finishing operations. Intermediate operations such as cone winding for ball warping, and thence to long-chain indigo dyeing, beaming, slashing and tying-in, all are accomplished in the existing old dyehouse building, now renovated, plus a new one-story building. This tying-in and beam storage facility joins the major new construction which is a complete new weave room with a full basement.

Weave Room

The weave room is roughly 212 by 247 feet, with ceiling height of 17 feet. Steel columns are spaced 35 by 35 feet. The area accommodates 700 looms. Floors in both this weave room and the card room additions are four-inch plank, one-inch subfloor with finish maple. The weave room roof is wood deck with two-inch Foamglas insulation, the walls are brick with interior glazed tile for low maintenance and the walls also have two inches of Foamglas insulation.

All manufacturing parts of the plant are air-conditioned with central station units, using evaporative cooling. Apparatus rooms of brick are are built along the outside walls of the card and spinning mill, while the weave room has roof mounted apparatus houses which have concrete floors, corrugated Galbestos siding on steel framing and precast concrete roof deck with two inches of insulation.

Design condition for the carding is 55% R.H. and 65% for spinning. The weave room system is designed for 85% R. H. All systems have built in provisions for adding a future refrigeration cycle; also enough capacity in fans, motors, etc., to accommodate increase in equipment motor horsepower as machinery is changed in the future, that is changing to X-2 looms. The same is true in the other basic utilities such as electric power mains, switchgear and branch wiring—the latter being placed as near as possible to ac-

commodate changeover in the future to machinery of different dimensions.

Illumination Levels

Fluorescent lighting was added throughout the plant, except in the warehouse, with levels of illumination varying from 35 to 40 foot-candles in the weave room and spinning, and down to 20 foot-candles in the card room. We will say, in passing that for fancy colors which are run on dobbys and jacquards, we recommend 50 foot-candles be maintained.

In the general over-all improvement program, work was done on the boiler plant, water system, air, electrical, steam distribution and fire protection facilities. When this entire construction program was in the planning stage, long term considerations were incorporated which would permit the easy expansion of the entire plant in all departments without moving machinery or interrupting production.

When the project was complete, what had been accomplished was virtually a U-shaped process flow with the goods traveling a minimum distance and with handling reduced to a minimum. Concurrently, a large part of plant production was maintained during construction.

By many standards, this became a fully modern, air-conditioned, windowless plant for the most part, and subsequent operating results have more than justified the investment.

a potential money-saver

Incentive Applications In The Finishing Plant

By THOMAS R. WILLIAMS*

A recently released report on a survey made of cotton finishing in the Southeast showed that of 26 plants, only 12 had any sort of bonus or incentive in operation. This is a startling figure. Only 46% of the plants surveyed had any sort of incentive. Most of these had only a few jobs on incentive.

If a similar survey were made of greige mills an entirely different situation would be found. Probably close to 100% of the mills use some sort of incentive, bonus or piece-rate system. It is no doubt true that many mills do not use work measurement but base their piece rates on guesstimates or rules-of-thumb. Nevertheless, they are making the effort to bring some semblance of order to their labor costs through incentive—to work toward the ideal situation where the direct labor cost of their products is constant.

Why is there such a difference between cotton mills and finishing plants in the use of wage incentives? Is it because sound incentives are more difficult to develop in the finishing plant? Is it because the quality aspects of the average job are too stringent to permit workable incentives? The answer to both of these is negative.

The main reason that incentives have not been used to any great extent in finishing is that in the past material and overhead have occupied such a high percentage of the total cost. Note that we say "in the past." Even with the tremendous increase that we have seen in labor costs over the past ten or so years, today in the finishing industry we find that costs run approximately 25% for labor. The remaining 75% goes for material and overhead. This still does not cover the cost of the fabric finished. In a yard of finished cotton fabric only 10% or less of the total costs has gone to finishing plant labor. It is not uncommon for the dyestuff alone in each yard to cost more than the labor for the entire finishing operation.

What does all this mean? It means that management in the past has concentrated its efforts on those areas of most importance—materials and overhead. Again we say "in the past"—for the days of overlooking or ignoring *any* costs are definitely over.

Too Much Trouble?

A few years ago many managements were reluctant to take on the troubles and the additional problems of creating and administering an incentive program when it would have little effect on the over-all cost of their product. Do not kid yourselves that sound incentives do not mean trouble and work for management and particularly for supervision. Ask some of these overseers now working with piece-work jobs who had the same department for years with only day work jobs and see what they say. Now each operator screams when his work runs out, before only the superintendent screamed if a lot was not completed as promised. Supervisors work "smarter" and with lower cost—but they probably work harder with incentives than without.

In the past management has been able to overlook labor costs to some extent while concentrating on the major cost sources of overhead and materials. However, in these

Is the use of incentives practical in the finishing plant? Incentive programs are harder to set up in the finishing operations, but they can pay off by reducing costs without any loss in quality. The author of the following lists some important points to consider in establishing such a program. The paper was presented last October at the Fall meeting of the Southern Textile Methods & Standards Association at Clemson, S. C.

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times of ever stiffening competition—both at home and from abroad—we cannot afford to leave a single stone unturned in an effort to reduce costs. The difference in cost of an efficient labor force versus an inefficient one may well represent the difference between a profit and a loss in today's market and may indeed spell success or failure for the finisher. As management continues to survey every operation in the plant with an eye for cost reduction, more finishing plants will be turning to incentives.

Incentive Plan

This has already happened in our company. We operate under policies which state that the corporation will endeavor to extend wage incentive coverage as widely as possible. Coverage will be increased as long as it is economically practical to do so. This policy covers all of our plants including those engaged in finishing.

The policy goes on to state that the purpose of our wage incentive plan is to present the opportunity to operators to realize earnings above the base rate of the job on which they work through the development of better than average skill and the use of better than average effort. This, of course, also benefits the corporation through lower costs and increased output.

To briefly outline the mechanics of our system, we are using the piece-work form of wage incentive in all our plants and find that it works well in finishing. Piece rates are calculated so that 100% performance will yield earnings which amount to the base rate for the job. A 100% performance is the standard performance and is defined as "the performance which can be expected from an average qualified operator working at a skill and effort level which can be maintained throughout the day without undue fatigue, at a pace which is neither fast nor slow, and taking full advantage of personal and fatigue allowances. Base rates are determined through job evaluation."

Fatigue and other allowances are determined through the use of a standard Riegel allowance formula. Piece-work earnings are directly proportional to production. For example: a 20% increase in production above standard results in a 20% increase in earnings above the base rate. We do not limit the earnings of the employees covered by the incentive plan. Also we guarantee an incentive standard unless there is a change of standard methods, motion pattern, material or equipment, quality requirements, machine speeds, or other frequency data. There are, of course, other fine points of our incentive plan which time does not permit us to cover here. However, this brief description should be adequate to show that we have a simple straight-forward plan which works equally well in our cotton mills, sewing plants and finishing plants.

Ten Operations On Incentive

We currently have four methods engineers assigned to projects in our finishing plants. Along with a great variety of other work we have succeeded in placing ten operations on incentive. These include hooker operators, hand folders, cotton winder operators, layout men, sewers, packer-invoices, rayon winder operators, doubler operators, doubler tackers, and napper operators. With the exception of napper operators, layout men and sewers all the jobs on incentive are located in one of our three packing departments. Again with the exception of napper operators all the previously mentioned jobs are on piece-work. The napper operators are paid in a manner similar to the way many of you pay spinners—that is, a bonus plan of so many cents per hour for each machine operated over the standard number.

Above Standard

It is interesting to note that the last four weeks average performance for nine of the jobs mentioned above (nappers are again excluded) is 118% with a spread from 106% to 132%. You may rest assured that this performance against sound standards represents a substantial savings to the company as well as extra income for the employees.

In addition to the above incentive installations we are working on the final phases of the development of incentives for our dry can ranges—these incentives will cover both the can winder and the can scutcher operators. This is our first attempt to establish incentives on heavy process equipment. However, we are proceeding in exactly the same manner on this project as we have on all incentive jobs. We are establishing through work measurement the work minutes involved in producing a specific amount of product—in this case 1,000 yards. The operators will then be paid according to their production. In other words, in proportion to the amount of work done. There is nothing mystical about this approach—no process allowance, no fancy earnings curve, just straight-forward work measurement. There has, of course, been some methods engineering done. A stop motion is being developed in co-operation with out staff engineering department so that the scutcher operator's machine assignment can be increased thereby providing him with more actual work to do in place of excessive inspection time. Also, we are fortunate in that we have three ranges side by side delivering five strands. By grouping this work we feel that there will be an incentive assignment for two operators.

Incentive Problems In Finishing

Are sound incentives more difficult to develop in the finishing plant than in the mill? My answer to this generally would be yes. In finishing we do not have a wealth of past experience with incentives to fall back on as we do in the mill.

For example, when we were installing our layout and sew jobs we encountered the problem of radical fluctuation in production. Supervisors found it difficult to believe that operators could produce the additional 50% called for in the new standards. They found it impossible to believe that careful planning could eliminate the feast or famine situation in the flow of production to the operation. However, by everyone working together we have overcome both problems and now have a highly satisfactory incentive job. As a matter of fact, some of the problems discovered during our work on this project led to the installation of a production control group in the finishing plant which is paying its way many times over through daily scheduling.

Another problem which we have found in the finishing plant is uncontrolled variation in the material handled. Several times we have found it necessary to develop "split" rates to overcome this. For example: on rayon winders the amount of work that an operator must do was found to

vary with the total yards produced and with the number of rolls handled. It was also found that the average yards per roll varied considerably. As a result piece-rates were developed for each style group and for roll sizes varying from 10 to 132 yards.

Production Records

Production records are kept for each operator, showing both the total yards produced and the number of rolls handled. At the end of the week the timekeeper makes one division to determine the average yards per roll on each style, refers to a chart showing the piece-rate per 1,000 yards corresponding to that average, then multiplies the piece-rate times the total production to determine the operator's pay. In summary we can say that the development of incentives in the finishing plant is more difficult in that we are faced with problems unfamiliar to us in the mill. However, with a little work we have so far enjoyed good success in reaching solutions to these problems.

Effect On Quality

The final question we want to discuss is the question of the effect of incentives on quality in the finishing plant. In the cotton mill the industrial engineer is constantly bedeviled by the demand for additional allowances for cleaning. In finishing, the problem of cleaning is supplanted by the problem of inspection. Few supervisors believe that they are getting adequate inspection at any point in the process for which they are responsible.

For the ten jobs at Riegel which we currently have on incentive, it is interesting to note that five are involved in the final inspection of our goods before shipment. We have not had, nor do we anticipate, any breakdown in our quality as a result of these incentive plans. In preparing for this paper, I surveyed several of the operating men in our finishing plant. They unanimously stated that they felt incentives had no effect on quality. One man went so far as to state that if there had been any effect at all in quality, the quality of shipments had improved since the installation of the incentive.

This, of course, agrees with the theory of industrial engineering which states that if an operator is working against a squad standard and under proper supervision, there is a greater likelihood that he will be following correct methods in an attempt to meet standards than he would follow without such a standard. The theory continues that if a man is working with correct methods his quality is certain to be better than a man working with incorrect methods. The conclusion drawn is that incentives tend to increase quality rather than reduce it. At Riegel this theory has proved to be true.

Marion Mfg. Co. Celebrates Anniversary

The Marion Mfg. Co., Marion, N. C., is presently observing its 50th anniversary. In honor of the occasion, the company has published a special edition of its employee magazine. The publication covers the history of the firm since its found in 1909 by Carroll Baldwin. Much of the histoiry of the organization is covered pictorially.

HIGHER QUALITY AND LOWER COSTS THROUGH

PROPER FINISHING PLANT VENTILATION

By HOLMES W. FREDERICK*

TEXTILE finishing plant ventilation is recognized today as a major factor in the economical processing of goods. It improves the environment where material is processed and where men and machines must work. The building which houses the finishing plant provides protection from outside weather. It is the function of the ventilation system to provide the proper weather inside the plant.

In the normal operation of a finishing plant cloth or yarn must be wet and dried, sized, calendered and treated by other processes which release large quantities of heat water vapor. The excess heat and moisture must be removed or neutralized by ventilation to prevent condensation on walls and roof and to keep water from dripping on the floor or on material being processed. In addition to the damage to goods, water condensed on the building causes paint to peel and accelerates rot and rust in wood and metal. It reduces the life of the building, increases maintenance costs and increases the cost of the finished product. Saturated air also tends to produce fog which reduces visibility, increases accident hazards and makes accurate work difficult. High temperature, particularly when accompanied by high humidity, reduces the efficiency of workmen and can be dangerous to health.

The nature of finishing plant work requires water and heat. The nuisance of excess water vapor and high temperature can be eliminated by one or more of the following procedures: (1) removal of water vapor at its source; (2) dilution of moist air with relatively dry air; (3) heating the air and surfaces to a temperature above the dew point; and (4) delivery of fresh air to hot areas to improve the efficiency and comfort of workers.

Moisture Removal

The first procedure mentioned—removal of moisture at its source, is most logical and is usually done by confining or collecting the moisture in hoods for removal by exhaust fans. It is obvious that when air is removed from a building more air must be brought in to take the place of that removed. This is obvious actually but for many years it was a fact that seemed to be ignored. When fresh air is brought in dilution of the moist air also occurs.

Heating surfaces to prevent condensation has limited usefulness and will be mentioned later in reference to roof heating systems. Cooling hot areas by ventilation is a necessity in finishing plant operation. This will be discussed in more detail later.

For best performance and most economical operation it is necessary to adjust carefully the amount of air supplied to and exhausted from a finishing plant. Too little air change allows an excessive amount of moisture and heat to remain in the building to take its toll in the spoilage of goods and high maintenance, while too much exhaust requires unnecessary use of fan horsepower and, in cold weather, unnecessary waste of heat to temper the supply air.

Hoods for the capture of moist air (or fumes or heat) may be totally enclosed, partially enclosed, or of the open or canopy type. Usual practice today is to totally enclose tenter dryers and ovens and often rope washers. Open washers, dry cans and sanforizers are usually equipped with canopy hoods.

Hood Effectiveness

The effectiveness of a hood is measured by its ability to capture the vapor or fumes given off in the equipment under the hood. A canopy hood depends on the air moving into the hood to capture the vapor. The quantity of air required is affected by several variables, such as the distance from the underside of the hood to the equipment it covers, the size of the hood relative to the size of its equipment and the nature of the vapor or fumes to be removed. The velocity over the face of a canopy hood in a textile finishing plant will vary from 30 feet per minute to over 100 feet per minute. The average face velocity will be about 50 feet per minute. Exhaust ducts must be carefully located to provide even air flow over the face of the hoods.

Although canopy hoods require more air than enclosed hoods, they have certain advantages. They allow constant visibility of and quick access to the machinery and to the material in process; they can be removed with relative ease

How can excess water vapor and high heat be removed from finishing plants? Why is ventilation being recognized as a major factor in economically finishing fabrics? What conditions make for effective hooding of wet processing equipment? The author answers these questions in a presentation at the March meeting of the A.S.M.E. in Clemson, S. C.

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should that be necessary; they take up no floor space; and they are less expensive to install than enclosed hoods.

Canopy hoods have been condemned by some people because moisture would condense on the inner surface and drip on cloth or on the floor. Where the air in the hood is hot and moisture laden—in other words when it has a high dew point—condensation will occur on the hood and in the exhaust duct. To prevent dripping, the top of the hood should be at an angle of 30 degrees or more to the horizontal. At this angle water will cling to the top, run down to the sides where it can be caught in a drip gutter and discharged to a drain. If the angle of the top of the hood is 45 degrees or more, water running down the inside of the vertical discharge ducts will usually follow the top of the hood.

Some exhaust ducts take off laterally from the top of the hood. These should be pitched away from the hood and drained so that no water will run back to the hood. But, in spite of precautions, dripping will sometimes occur, probably due to impact of the moisture laden air on the sides or edges of the exhaust duct. If dripping at the exhaust connection does occur it can be alleviated by installing a simple drip pan, consisting of a piece of flat asbestos board or sheet metal to catch the drip and guide it to the drain gutter at the edge of the hood.

Totally enclosed hoods are most effective. They require the least amount of exhaust and their enclosures protect operators from the radiant heat of hot apparatus. A smaller amount of air is required by enclosed hoods than by open hoods for two reasons. First, the "capture velocity" of air is not required since the vapor is already captured. Second, the air in an enclosed hood can be heated to a higher temperature, either by air pre-heaters or by utilizing the heat of the hooded equipment, and high temperature air will absorb more moisture than lower temperature air would absorb. Furthermore, since the air is discharged from an enclosed hood at high temperature, heat recovery from the discharge air is more feasible.

Early hoods were often constructed of wood. In more recent years most hoods have been constructed of sheet metal or asbestos board, the trend being more to asbestos board. This material is not new. One hood of asbestos board over a dye kettle was reported to have been installed in 1911 and was still in operation in 1920. In 1920, however, hoods seem to have been the exception rather than the rule. Mr. A. W. Benoit, speaking in 1920 before the A.S.M.E. on the subject of dyehouse ventilation said: "The system of ventilation which has given best results is to place over the kettles hoods having vents up through the roof and to distribute warm air over the room and in a blanket on the under side of the ceiling in sufficient quantities to produce a slight pressure. This prevents cold air from entering the room and causes the steam to discharge directly up through the vents, keeping the ceiling from appreciable condensation and the room free from visible vapor." In discussing this paper, Mr. C. E. Bliss said that of a number of installations made by a large manufacturer, only two had hoods.

Suitable Coating Materials

Hood exhaust fans must be made of material which will not be affected by the gases handled or should be protected against corrosion by suitable coating materials. Stainless steel or aluminum fans are often used. Some of

the new plastic coatings are very effective in preventing corrosion but they are expensive. An interesting recent development is a fan made of plastic reinforced with Fiberglas.

From an aerodynamic point of view the exhaust fans can be located anywhere between the hood and the air discharge. From a maintenance point of view the roof is the better place to install the fans. Since the static pressure loss in the hood exhaust systems is usually low, axial flow fans are ordinarily more economical than centrifugal fans. They lend themselves, too, to the up-blast discharge type of hood exhaust.

This type of exhaust fan, manufactured by a large number of companies, consists essentially of a vertical duct enclosing the fan, the upper end of which is closed by a two-winged butterfly damper when the fan is not operating. When the fan starts the air flow causes the damper to open and stay open until the fan is stopped. It is most desirable to have the hood exhaust discharged upward at high velocity to avoid contamination of air which is to be taken into the building for ventilation. With this type discharge from the exhaust fans it is entirely feasible to locate an intake fan close to the exhaust fan.

Well-designed hoods properly installed and operated remove most of the water vapor from the finishing plant but they do not remove all of it. Cloth traveling from one place to another, particularly in the bleachery, gives up large quantities of water as water vapor. Steam leaking from J-boxes, open doors of totally enclosed washers, water on the floor, etc., all contribute water vapor to the surrounding air. This vapor disperses rapidly due to the difference in partial pressure of the vapor in different parts of the room. The vapor is carried also by currents of air.

As mentioned before, two methods used to prevent condensation on the underside of the roof are to warm the surface and to reduce the dew point of the air at the surface. Modern practice is to reduce the heat flow through the roof by use of insulation, usually the equivalent of two-inch-thick cork, and to supply a blanket of relatively dry air along the underside of the roof. In cold weather this air is heated to about 110 or 120 degrees F. maximum to increase the surface temperature.

Air Supply

Air for roof heating and moisture absorption has been supplied by two general methods. One is to use large central station systems to deliver air to the underside of the roof through ductwork. The other method is to use smaller heating and ventilating units, which discharge under the roof, usually without ductwork. There is some disagreement among engineers as to which of the systems is better.

A central station system usually consists of a centrifugal fan mounted in a penthouse along with heating coils, filters and controls. Ductwork from the fan distributes the air under the roof and discharges the air through small nozzles or inverted diffusers. Its capacity can be 50,000 or 100,000 c.f.m. or more.

The heating and ventilating type units consist of a fan section, a heating coil section with face and bypass dampers and a filter section. These sections are factory made and are assembled on the job. They can be suspended under the room with a fresh air connection from above, or they can be mounted above the roof with short discharge ducts through the roof. The normal maximum size of these units is about 20,000 c.f.m. and by using a number of them ductwork is not necessary except in special cases. In my opinion it is better to mount these units above the roof where they are readily accessible for inspection, maintenance and repair. Roof-mounted units and the connections to them must, of course, be carefully insulated and weatherproofed.

Central Station Advantage

The principal advantage of the central station systems is ease of maintenance. There are fewer units to be maintained and all equipment is protected from the weather. Advantages of the heating and ventilating units are lower costs and greater flexibility. Also, because of their lighter weight they require less expensive building construction and are more adaptable to existing structures.

When cold outdoor air passes through heating coils, there is always danger of the heating coil freezing. To avoid this trouble it is necessary to have the heating coils installed so they will drain freely; to furnish steam at not less than five p.s.i.g. at the coil; and to provide controls which will apply full steam pressure to the coil whenever the incoming air temperature is less than about 35 degrees F.

A control arrangement which has proven successful is: A modulating type room (or duct) thermostat operates face and bypass dampers so that as the room (or duct) temperature rises above the thermostat setting the dampers at the face of the heating coil gradually close and the bypass dampers open. After the face dampers are closed the two-position steam valve will close provided the incoming air is above 35 degrees F. An outdoor thermostat is arranged to overcall the room thermostat and open the steam valve whenever the outdoor temperature is near freezing. One outdoor thermostat can be used to protect more than one heating coil.

The total amount of air supplied to the finishing plant should be greater than the total exhaust. This will provide positive pressure in the plant to prevent leakage of cold air into the building. It is unfortunately true that most finishing plants today have more exhaust than supply capacity. Such a condition is not too serious when the weather is warm and windows can be left open, although it may be objectionable because of dirt which enters the plant through the open doors. But, in cold weather when the outside openings of the building are closed, a negative pressure will create a number of problems.

The troubles resulting from negative pressure are:

(1) the effectiveness of the exhaust fans is reduced, therefore, the effectiveness of the hoods is decreased;

(2) cold drafts tend to leak into the plant with the possibility of causing fog and uncomfortable conditions for employees; and

(3) negative pressure disturbs the operation of gas flames, causes backdrafts in gas flues and spreads obnoxious fumes in the plant.

Even though a plant may start with balanced ventilation a negative pressure situation can develop if the supply heating coils and filters are allowed to become dirty, or if additional exhaust fans are installed without also installing additional supply fans.

In warm weather more ventilation is required to reduce temperature. This can be efficiently and most economically

handled by using a separate group of supply and exhaust fans for additional Summer ventilation. Such a method was used at Cone Mills' Carlisle (S. C.) Finishing Co. and has been satisfactory. In that installation the Winter supply was furnished by roof mounted heating and ventilating units which were designed to furnish to the finishing plant proper about 10% more air than the hood and other exhaust fans removed from the plant. (In this case the office, napper room, basement areas and warehouse were treated as separate buildings). Summer supply fans were mounted on the roof and arranged to blow air down through ducts to about 10 feet above the floor where the air was discharged horizontally by simple baffles at the lower end of the ducts. Summer exhaust fans were also roof mounted, of the up-blast type, like the hood exhaust fans. The intake of these fans was at the underside of the roof. Winter air supply was approximately 2.1 c.f.m. per square foot of floor area, and Summer supply amounted to about 6¼ c.f.m. per square foot of floor area.

Increase Efficiency

One of the effects of rising labor costs is to make a workman's time more valuable to his employer. It follows that any savings in the workman's time, or any increase in his efficiency, will return dollars to the pocket of his employer. Tests have shown that the work output of a man decreases as the temperature and humidity of his surroundings increase over certain limits. The more work a man does the more body heat he must dispose of to maintain an approximately even body temperature. As surrounding temperatures and humidities rise the disposal of heat becomes progressively more difficult until the point is reached when the rate of work must be reduced to maintain the proper heat balance. As surrounding conditions become more severe, even a human body at rest cannot maintain the proper heat balance and it is necessary to find more salubrious conditions, even if for a short time only. Dr. L. A. Brouka, head of the physiology division, Haskell Laboratory, The Du Pont Co., states that resting in air-conditioned rooms for short periods several times a day can make workers who labor in temperatures up to 156 degrees F. as productive and generally healthy as those who labor in ordinary temperatures. He cites the case of the Aluminum Co. of Canada where the cost of such a room was far outweighed by the savings. Following the installation of an air-conditioned rest room there was a sharp drop in absenteeism and labor turnover.

In finishing plants the usual practice to give relief to men who must work in hot places is to provide "spot cooling," a jet of fresh air, tempered in Winter to about 70 to 80 degrees F., at or near a work station. Since comfort depends to some extent on the idiosyncrasies of each individual, it is advisable to arrange the spot cooling ducts and outlets so that the men can adjust the air flow and temperature to suit themselves.

Future Developments

The general development of finishing plant ventilation in the future will be influenced by changes in the finishing plant processes, by new developments in ventilating equipment, and by the relative costs of ventilation, of trained manpower and of goods produced.

As for specific predictions, I believe many of us will live to see:

(1) more totally enclosed hoods;
(2) Winter ventilation with smaller quantities of air;
(3) increased attention paid to heat recovery equipment
(4) better designed equipment and protective coatings to reduce operating and maintenance costs;
(5) more attention to air cleanliness requiring effective prevention of air pollution and wide use of air filters; and
(6) more fully air-conditioned areas and more attention paid to the comfort and health of the man who tends the machine.

The advance in finishing plant ventilation has been slow, but improvements are being developed and adopted at an accelerating pace. The trend is toward complete removal of fog and unwanted heat, the elimination of dripping water, the more economical operation of ventilating equipment. Improvements in ventilation contribute to employee comfort, increase operational efficiency, and produce a better textile product at a lower production cost.

Texans Seek To Increase "First Bale" Interest

The cotton committee of the Harlingen, Tex., Chamber of Commerce is hoping to interest mills and other segments of the textile industry in the annual auction of the first bale of cotton of the year. A subcommittee has been named to see whether the mills can be interested in the opportunities for good publicity growing out of the purchase of the first bale.

Auctioning of the first bale, usually after an exciting race between farmers trying to win a minimum of $2,500 cash for their efforts, takes place during the community's Cotton Week when all kinds of cotton promotions are staged. Cotton Week has a very fluid date. It's never set until the first bale of cotton from one of the four Valley counties, Starr, Cameron, Willacy and Hidalgo, is ginned. The cotton committee gives an outright bonus of $1,500 for the first bale and guarantees a minimum of $1,000 from the auction.

As a result of the Choice B plan, cotton acreage in the four-county area has increased this year to 34,000. Although most of the crop is late, the indications are that there is enough early cotton to warrant looking for the first bale around the middle of June.

1958 Cotton Crop Sets Yield Record

The 1958 cotton crop totalled 11,512,000 bales with a lint value of $1.9 billion, according to the U. S. Department of Agriculture. This is short of the department's December forecast by about 70,000 bales. It compares with the 1957 crop of 10,964,000 bales and the 1947-56 average of 14,136,000 bales.

The crop's lint value increased 17% from the previous season as growers received an average 33.1 cents a pound to May 1, compared with 29.65 cents for the below-average quality 1957 crop.

In spite of excessive rains, the U.S.D.A. reported that the 1958 average yield of 466 pounds set a new record, comparing with the 1957 yield of 388 pounds. Through May 1, the department said that a total of 6,811,253 running bales of the 1958 crop had been placed under Government loan. This was 60% of the total ginnings for the season. Some 434,086 of that number had been redeemed by May 1.

Ten Years of Broad Woven Fabrics — 1949-1958

UNITED STATES production of cotton, wool, silk and man-made fiber textiles in 1958 totalled 11,607,109,000 linear yards, excluding automobile tire fabric, according to the summary of apparel fiber textiles shown in "Ten Years of Broad Woven Fabrics" by The Association of Cotton Textile Merchants. The total is 4.1% or 494,709,000 yards less than the 12,101,718,000 linear yards shown in 1957, and is down 7.2% or 900,706,000 yards from the 12,507,715,000 average production of the 1948-57 decade. The figures are summarized annually from the several quarterly production series of the Bureau of the Census on broad woven fabrics.

With the exception of the depression year 1949, when only 10,923,102,000 yards were produced, the 1958 showing is the lowest of the decade and emphasizes a continued recessive tendency since the peak year 1955. In that year 13,115,879,000 yards were produced, the all-time record excepting only the war year 1942. The cumulative loss of production since 1955 has amounted to 2,707,828,000 linear yards, reflecting a prolonged period of inventory reduction in the industry and distributive trades and protracted downward adjustments of production. The low point of this trend was reached last Summer, and has been followed by partial recovery.

The year 1958 was marked by continued declines in production of goods of the natural fibers, but by a reversal after heavy prior declines in rayon/acetate fabrics. The newer man-made fibers were down slightly after continuous annual gains in prior years.

In cotton goods, production was 8,974,865,000 linear yards, off 564,447,000 or 5.9% from 1957, and down 13.0% from the peak post-war year 1956 in these goods. Among the major cotton goods division only fine yarn goods and the "all other" classification showed gains from 1957. Towels and toweling were at a low since 1955, print cloth yarn goods at a low since 1949. Record lows for this series of figures dating from 1941 were set in duck, sheeting yarn goods, and colored yarn and napped fabrics.

Rayon/acetate broad woven goods at 1,636,159,000 linear yards for 1958 were up 182,122,000 yards or 12.5% in the year, although 32.0% below the peak year 1950 for these fabrics. All major divisions here showed gains for the year, the most important being a substantial reversal in 100% spun yarn fabrics, while a new high was set for the pile, upholstery, drapery, tapestry and tie fabrics category.

Per Capita Production Of Broad Woven Goods
(Linear Yards)

1937 est.	78.64	1949	73.22
1939 est.	76.66	1950	86.30
1941	94.93	1951	83.49
1942	98.56	1952	77.43
1943	93.36	1953	81.08
1944	84.97	1954	77.07
1945	77.42	1955	79.35
1946	81.50	1956	76.89
1947	85.84	1957	70.69
1948	84.60	*1958	66.68

*Preliminary

In the separate group of other man-made fibers including nylon, acrylic, polyester, Saran, polyethylene and textile glass fabrics, production was 681,182,000 yards, second only to the record 776,013,000 in 1957. Wool goods dropped to a new record low of 273,290,000 yards, and silk and miscellaneous goods were off slightly at 41,513,000, of which 24,766,000 were silk or part silk goods.

The country's textile production in relation to population dropped to a new low of 66.68 yards in the year, a loss of more than ten yards per capita in two years, and almost ten yards less than it was in pre-war 1939. The per capita figures given here are based on population of the continental U. S. without export-import adjustment.

National Wool Association Meets

Edwin Wilkinson

Members of the National Association of Wool Manufacturers heard 1958 described as a distressingly poor year at their 94th annual meeting in the Waldorf Astoria, New York City, May 14. Edwin Wilkinson, incoming president, said that in spite of the situation in 1958 the industry has crossed the threshold of improved activity. If the industry is to extend the improving trend, Wilkinson said, it must exercise restraint in a manner and to a degree that has not been characteristic of the industry in the past.

Wilkinson succeeds William I. Kent of Kent Mfg. Co., Clifton Heights, N. J., as president of the association. A native of Philadelphia, he has been in the textile industry all his life. He has served the organization as executive vice-president since 1952. Newly elected to a vice-presidency was J. H. Strusberg, Livingston Worsted Mills, Holyoke, Mass. Glen F. Brown was renamed secretary and treasurer.

William Kent, retiring president, told the group that improved conditions in the wool textile industry increase the need for strong unified group action. He said that members of the industry must strive to protect their improved position from the threats such as that of the low-wage imports. Kent also pointed out that one plus factor in the wool scene is the fact that today wool textile mills have more agencies in the field of advertising, promotion and public relations than ever before.

Among the newly elected group directors of the association is Wilton F. May, Southern Worsted Mills, Greenville, S. C. In other business, the group named Ralph S. Lees Jr., Amertron Co., New York, as chairman of the Collateral Group, succeeding William W. Grose, Newell Textile Sales Co., who becomes a director representing the group.

It was announced that the organization's next function will be its annual golf outing at the Weschester Country Club, Rye, N. Y., on June 19.

S. C. Textile Men To Meet May 28-30

Over 200 persons are expected to attend the annual convention of the South Carolina Textile Manufacturers Association at Sea Island, Ga., May 28-30, according to John K. Cauthen, executive vice-president. The program for the three-day meeting includes talks by Dr. L. H. Hance, president of the Institute of Textile Technology, Charlottesville, Va., and Dr. William H. Miernyk, staff director of the

U. S. Senate subcommittee which recently made a study of the problems of the textile industry; the president's report on the association; and election of officers.

Dr. Hance will speak on "Research Horizons on the Textile Industry" and will be introduced by Roger Milliken, president of Deering-Milliken & Co. Dr. Miernyk, director of the Bureau of Business & Economic Research, Northwestern University, Boston, Mass., will discuss his observations of the textile industry made during the Pastore Committee hearings. He will be introduced by James A. Chapman of Inman, president of the American Cotton Manufacturers Institute. Both men will speak at the Friday, May 29, session. The convention opens officially at 3:30 p.m. on May 28 with a meeting of the board of directors.

In addition to the talks by Dr. Hance and Dr. Miernyk, the Friday business session will hear the annual report of the association given by President Frederick B. Dent, president of Mayfair Mills, Spartanburg. A meeting of the J. E. Sirrine Foundation, headed by George M. Wright of Abbeville, also is scheduled for the Friday business session.

On Saturday's business session a report on television's use in education will be presented. Committee reports and election of officers will conclude the program.

Dent, who succeeded the late P. S. Bailey of Clinton as president of the association, is expected to continue in office. Members will elect a new vice-president and three directors. Directors whose terms are expiring are Walter S. Montgomery, Spartan Mills, Spartanburg, S. C.; S. W. Converse, Clifton (S. C.) Mfg. Co.; and Elliott W. Springs, Springs Cotton Mills, Lancaster, S. C.

Jones Cites Cotton's Needs To Producers

Halbert M. Jones

Halbert M. Jones, president, Waverly Mills, Laurinburg, N. C., and immediate past president of the American Cotton Manufacturers Institute, told the Delta Council, a cotton producers organization, meeting in Stoneville, Miss., May 14, that "a strong textile industry is your best insurance for the future for the raw cotton trade."

The textile industry, Jones added, possesses the potential for a vigorous and a dynamic future in the United States provided:

(1) That raw cotton is kept available in quantities and qualities adequate to supply a growing domestic demand.

(2) That prices of cotton are competitive with other fibers and products encroaching on cotton's markets, and with foreign supplies of cotton which invade U. S. markets in the form of textile products.

(3) That the quality of cotton is continually improved and that quality preserved and delivered both to the mill and to the final consumer of cotton products.

(4) That domestic markets are protected from an uncontrolled flow of imports from low-wage foreign textile manufacturers.

He also warned that "neither the producer nor the ginner nor the oil miller nor the warehouseman nor the merchant nor the textile manufacturer will prosper unless there is a growing domestic consumption of raw cotton," and he emphasized the words domestic consumption. "In the long run," Jones declared, "we shall produce and sell our cotton at competitive prices or we will lose our export markets entirely. This prospect makes it increasingly essential that we strengthen the textile industry and build up the consumption of cotton in our plants in the United States. The vigor and growth of the domestic cotton manufacturing industry will determine, in large measure, the opportunity and the prosperity of our raw cotton industry for the future."

With direct competition from man-made fibers playing an increasingly important part, Jones said, "cotton must be priced competitively, not necessarily low, but competitive with other fibers and with materials which are encroaching on cotton's markets. Cotton must be supported by the expansion of a balanced program of research and development at all levels from the seed-breeder to the final distribution to improve quality, to reduce costs of production, processing and distribution, to create new finished cotton products and cotton products must be merchandised with sales promotion efforts matching those of our competition for the customer's dollar."

Alligood Named Phi Psi Man Of The Year

The North Carolina State College Chapter of Phi Psi, national honorary textile fraternity, has presented its "Man of the Year" award for distinguished service to the textile industry to William G. Alligood, personnel director of American & Efird Mills, Mounty Holly, N. C. Clay Smith, Spindale, N. C., president of the Phi Psi chapter and a senior in the School of Textiles, read the citation honoring Alligood. The award was presented by Dr. Malcolm E. Campbell, dean of the School of Textiles.

The mayor of Mount Holly, Alligood is a leading figure in the Democratic Party and in Gaston County religious, civic and fraternal affairs. He is a member and officer in numerous professional associations.

I.T.T. Holds Annual Meeting

A 15% increase in spindleage membership during the past year, addition of a new member mill, and a year in which income was in excess of expenses were among the highlights reported by Dr. L. H. Hance, president of the Institute of Textile Technology, Charlottesville, Va., to the school's board of trustees as they ended a two-day meeting along with members of the institute's technical advisory committee on April 29.

Roger Milliken

Roger Milliken, president of Deering, Milliken & Co., Spartanburg, S. C., was re-elected chairman of the board. Other officers renamed were J. L. Lanier, president of West Point (Ga.) Mfg. Co., vice-chairman; Dr. Hance, president; C. H. Merriman Jr., executive vice-president of Crompton-Shenandoah Co., secretary; and Percy S. Howe Jr., president of the American Thread Co., New York City, treasurer.

Chicopee Mfg. Corp., New Brunswick, N. J., is the new member of the institute, a private, non-profit organization carrying out applied and basic research for the member textile companies. The institute also trains textile scientists at the graduate level and is supported by the member concerns.

In his report to the trustees, Dr. Hance announced over one-half million new spindles had been added to membership in the past year, which represents about 15% increase

the number of spindles represented in institute membership. An investment in buildings and facilities with a replacement value of almost $2,000,000 has been developed during the institute's 15 years of service without undertaking long-term indebtedness, Dr. Hance said, and the current fiscal year again will be completed with an excess of income over expenses. Dr. Hance also reported a sizeable reserve fund has ben developed over the years, and that during the past year fellowship donations from member companies reached an all-time high of more than $17,000.

N. C. State And Auburn To Graduate 94

The School of Textile Technology, Alabama Polytechnic Institute, Auburn, will graduate 33 seniors this year, according to Cleveland Adams, head of the school. The North Carolina State College School of Textiles has reported that it will graduate some 61 students this May and another four in Summer school. Auburn's total is an increase from last year's total of 30 graduates. Enrollment is reported to be off considerably. Most of the upcoming grads of N. C. State have already been hired by textile firms.

Auburn's report was made before the Alabama Textile Foundation meeting recently in Biloxi, Miss. The foundation, which was formed to assist the school financially, has provided the school with $57,950 in cash in the six years it has been in existence. Adams also reported that Auburn's enrollment is off considerably since the organization of the foundation.

A few curricula changes were made during the year, according to the report, in order to strengthen the curriculum and to bring it more in agreement with current accrediting requirements. A large number of scholarships are still being offered, some of which are not filled, Adams reported.

Tufted Textile Shipments Up

Total shipments of tufted textile products amounted to $210.7 million during the last half of 1958. This compares to shipments of $171.8 million during the first half of 1958 and $186.0 million during the last half of 1958, according to The U. S. Department of Commerce. The value of manufacturers' shipments of tufted rugs and carpeting during the last half of 1958 amounted to $177.9 million. This was 20% above the shipments during the first half of 1958 and 17% above the comparable period of 1957. For the year 1958, shipments of these products amounted to $326.7 million, or 10% more than the $296.0 million reported for 1957. This increase was largely the result of increased shipments of rugs and carpeting larger than 4 x 6 feet. Shipments of rugs 4 x 6 feet or smaller increased in 1958 to $66.7 million from the 1957 level of $65.5 million.

The value of manufacturers' shipments of tufted bedspreads for the second half of 1958 was at approximately the same level as shipments during the comparable period of 1957. During the same periods, dollar shipments of tufted robes declined 26%.

Manufacturers consumed 170.0 million pounds of yarn and fabric for the production of tufted products during the last half of 1958. This was 32.4 million pounds more than

Maid-of-Cotton

Miss Malinda Berry, of Stillwater, Oklahoma, was selected Maid-of-Cotton for 1959. Textile Manufacturers select Burk-Schier Wet Processing Agents for dyeing and finishing yarns and fabrics made of cotton.

the reported consumption for the previous half year. The consumption of cotton tufting yarn increased from 29 million pounds to 36.3 million pounds, while the consumption of 100% rayon and acetate yarn increased to 49 million pounds, from the 43.9 pounds consumed during the first half of 1958. Wool yarns consumed in tufted products totalled 14.8 million pounds, while the consumption of other tufting yarns, which were primarily nylon and nylon and rayon mixtures, was 13.1 million pounds for the first half of 1958.

Woolen System Consumption Down

The weekly average rate of fiber consumption on the woolen and worsted systems in March was 4% below the February rate and 25% above that of March 1958. The weekly average raw wool consumption during March was 8,310 thousand pounds (scoured basis) or 5% below the February level, and 38% above that of March 1958. Consumption of apparel class wool was slightly above the February level and 30% above that of March of last year. Consumption of carpet class wool was 11% below the rate of the preceding month and 53% above the March 1958 rate.

Consumption of fibers other than raw wool averaged 6,674 thousand pounds per week, or 3% below the February average and 11% above March 1958. These figures include production of man-made fiber tow converted to top without combing. Total fiber consumption also includes this top production. All figures are from the U. S. Department of Commerce.

Cotton Cloth Imports Up

U. S. imports of cotton cloth manufactures during March totalled 13,674,000 square yards, with a value of $3.6 million, according to the U. S. Department of Commerce. This compares with imports of 11,819,000 square yards with a value of $3.3 million in March 1958 and with 14,012,000 square yards valued at $3.4 million in February.

Other cotton manufactures imported in March were valued at $9.2 million as compared with the year earlier $7.7 million and the month earlier $6 million. Burlap manufactures received in March at 102,189,000 square yards were valued at $9.2 million.

The March import value of flax, hemp and ramie manufactures was $2.6 million. A year previous the value was $2.2. In February the value of these goods was $2.1 million.

Reeves Bros. Organizes Fabric Firm

A new plastic-coated fabric concern, ESB-Reeves Corp., has been organized under the joint ownership of the firms of Reeves Bros. Inc., New York City, and the Electric Storage Battery Co., Philadelphia, Pa., according to an announcement made recently by J. E. Reeves, president of Reeves Bros. and of the new organization.

C. F. Norberg, president of The Electric Storage Battery Co., becomes chairman of an eight-man board of directors made up of four representatives of each of the joint owners. The other three members from ESB are E. J. Dwyer, vice-president, secretary and director, D. N. Smith, vice-president, and Dr. H. J. Strauss, associate director of research.

Reeves Brothers is represented on the board by J. E. Reeves, president, J. H. Wyatt, vice-president, J. D. Moore,

vice-president, and Dr. V. L. Erlich, vice-president in charge of basic research.

Officers of ESB-Reeves are J. E. Reeves, president, Dr. V. L. Erlich, J. D. Moore, D. N. Smith, Dr. H. J. Strauss and J. H. Wyatt, vice-presidents, and E. J. Dwyer, secretary-treasurer.

Dwyer, Erlich, Strauss and Wyatt comprise the operations committee, which will co-ordinate programs and make recommendations to the board of directors.

The products of the new corporation, consisting of a variety of fabrics combined with microporous plastics, will be manufactured and marketed initially by the Vulcan Division of Reeves under the supervision of Howard Brigham, products manager.

Possibilities for fabrics to be produced by the new firm are seen in such applications as rainwear, infants' wear, undergarments, protective outer garments, personal products, surgical dressings, hospital sheetings, tent material, sleeping bags, thermal insulation, shoe fittings, filter media, typewriter ribbons, and a number of military uses.

Characteristics of the new fabrics which make them particularly adaptable to the uses named are that they are waterproof and at the same time have the ability to "breathe" permitting the passage of moisture vapor through their microscopic pores.

Number Of Broad Weave Looms Decreases

Looms in place in broad woven fabric mills at the end of 1958 totaled 439,275, a drop of 5% from the 461,531 looms in place at the end of 1957, according to figures given by the U. S. Department of Commerce. There were 421,965 cotton and man-made fiber looms and 17,310 woolen and worsted looms in place at the end of 1958. At the end of 1957 the numbers in place were 443,098 and 18,433, respectively.

Of the total number of looms in place on December 31, 1958, there were 327,071 in cotton mills, 95,814 in man-made fiber and silk mills, and 14,453 in woolen and worsted mills. This represented declines of 7% for cotton mills and woolen and worsted mills, while the number at man-made fiber and silk mills increased 4%.

Chapman Scores Japan's Export Increase

James A. Chapman, president of the American Cotton Manufacturers Institute, has issued, with the endorsement of Henry A. Truslow, president of the Northern Textile Association, the following statement regarding Japan's decision to increase cotton textile exports to the U. S.:

"Word that the Japanese propose to increase textile exports to the U. S. market creates a feeling of great apprehension for the American industry. It is extremely unfortunate that Japan has abandoned the principle upon which the voluntary quota arrangement was based at its inception. It may be recalled that the program, calling for an over-all ceiling of 235 million square yards a year, was based on 1956 production, employment, profits and price levels. In our view, a ceiling of 150 million square yards was indicated as equitable.

"The agreement explaining the program included this provision: 'anticipating that changes may well occur in the United States textile market within the next five years, these ceilings shall be the subject of annual reviews in which the Japanese government will consult with the United

States government for the purpose of arriving at such adjustments, upward or downward, in the quotas as may be warranted by changed conditions.'

"Conditions in the U. S. market, indeed, have changed. In the past two years there has been additional deterioration in the market as reflected in each of the key factors. A decrease in Japanese imports seemed to be in keeping with the original principle.

"We had hoped Japan would arrange for more diversified textile and apparel shipments to lessen the damage to American industry. This, it seemed to us, would be in the best interests of both the United States and Japanese governments. It will be recalled also that we viewed the arrangement at its outset as a contribution to the orderly marketing of textiles to the benefit of both nations. A departure can only undermine the confidence we placed in the arrangement.

"It is our understanding that in their negotiations with the Japanese government our government officials made strong representations in behalf of the U. S. textile industry. We are most appreciative of their efforts. The fact that the Japanese government saw fit to take the action anyway, coupled now with increased imports from other countries, notably Hong Kong and India, points up the need for the U. S. government itself to determine exactly how the U. S. market is to be shared with off-shore manufacturers. It is imperative that this unrestrained and unfair competition be halted. Only through controls imposed by our government can American productivity be preserved."

Management Group Names Top Textile Firms

The names of companies which it has certified to be "excellently managed" in the textile industry for the year 1958 have been announced by the American Institute of Management. The textile companies named are Cannon Mills Co.; Cluett, Peabody & Co.; Pepperell Mfg. Co.; United Elastic Corp.; and West Point Mfg. Co.

The citations are designed to "bring deserved recognition to those companies whose managements are doing most to increase productivity, with accompany benefits to employees, shareholders, their plant communities and to the economy as a whole." The companies were selected based on the appraisal of: (1) economic function; (2) corporate structure; (3) health of earnings; (4) service to stockholders; (5) research and development; (6) directorate analysis; (7) fiscal policies; (8) production efficiency; (9) sales vigor; and (10) executive evaluation.

Georgia Tech Receives Textile Funds

Cash grants and supplements totaling $28,200 for the 1959-60 fiscal year have been awarded to the Georgia Institute of Technology by the Textile Education Foundation, Inc., according to Dr. Edwin D. Harrison, Tech president. Additional funds, up to $30,000, will be made available for machinery purchases on a matching basis with Georgia Tech funds, Dr. Harrison added.

With the exception of a $4,000 grant to the textile technology program at the Southern Technical Institute, all the funds will be used by the A. French Textile School, he said. Dr. Harrison described the various grants as follows: supplements to faculty salaries—$5,200; supplements to faculty travel allowances—$2,000; student scholarships—$12,000; special project to construct exhibits in foyer of

W. Harrison Hightower Building—$5,000; and the Southern Tech grant.

We are extremely hopeful that our own budget position will be such that we can take advantage of at least a portion of the $30,000 that is offered for textile machinery," he said. "We are anxious to become equipped, in our textile school, for more extensive and useful research services to the textile industry and the government," he added.

Dr. Harrison said that with the exception of the machinery funds the new grants by the textile foundation are "almost identical" to those awarded the previous year. "Actually," he said, "the foundation purchased $22,136.18 worth of machinery for our textile school last year with its own funds."

The Textile Education Foundation was organized by Georgia textile companies in 1943 and its contributions to Georgia Tech's textile teaching facilities since that time have amounted to more than half a million dollars. Dr. Harrison said that it is the interest and support of such groups as the Textile Education Foundation that make it possible for Georgia Tech to maintain its stature during a period when competition for outstanding students and faculty members is becoming increasingly keen.

Textile Operations Of Textron Improve

Royal Little, chairman of the board of Textron Inc., has reported to stockholders that the company's textile operations are now making money and are doing better than last year. Amerotron, the textile division, was pretty well sold ahead and at rising prices. The current textile improvement would depend a great deal, Little added, on the attitude of the mills and the cutters. If the mills were to operate on five days and if the cutters would place greater emphasis on the balance between firm orders and their production, the current improvement could reasonably continue for the next few years. However, in the past, the mills have not exercised the restraint and it is illegal to restrict production.

Commenting on the recent acquisitions of Textron into more metal working and heavy industry, Little stated that the textile volume was now about 23% of Textron's total sales. Nevertheless, with the improved volume in the metal working divisions as well as the possibility of additional non-textile acquisitions, the percentage of textiles by year end could possibly be in the neighborhood of 20%. This however, does not mean a decrease in the present textile operation, but rather an increase in other directions.

Woolen & Worsteds Promoting U. S. Wool

The American public must be made aware that an import label on woolens and worsteds does not indicate superiority to American-made wool products, according to G. Norman Winder, president of Woolens & Worsteds of America Inc. Speaking recently before the National Association of Wool Manufacturers at New York, Winder told of the promotional activities planned to improve the position of the wool industry in the national economy and to inform the public that American-made wool products are comparable with the world's finest.

Echoing the remarks of Assistant Secretary of Commerce, Henry Kearns, he emphasized the need for a better job in promoting and publicizing the latest developments and fine quality of American-made wool products. In outlining

his association's plans for actively promoting American-made woolens and worsteds, Winder said that the wool trade must continue to make more American wool products available.

He warned of the necessity for concerted industry action regarding imports from low wage countries, which, he said, pose an ever increasing threat to the entire American wool industry. Woolens & Worsteds of America Inc., an organization formed to stimulate the sale of American-made wool products, is nearing its goal of $300,000 for a two-year promotional program, Winder reported. The American Sheep Producers Council, which he represents, has allocated $150,000 for the minimum two-year program and membership in the association by mills, mill suppliers, factors and sales agents already has approached the $120,000 mark.

The Fiber Society Holds Its Spring Meeting

A textile educator's appraisal of the problems which face his field, a discussion of the space era by a leader in Air Force research, and seven technical papers in fiber science highlighted the program of the Spring meeting of the Fiber Society at Fontana Village, N. C., April 29-30.

The educator, Dr. Martin J. Lydon, president of Lowell (Mass.) Technological Institute, spoke on the topic "Science, Engineering and Textile Education." Noting the value of textile education is not universally recognized, Lydon said, "This lack of understanding derives from many factors and is complicated by two recent developments: the cataclysmic change which has characterized the textile industry in the past ten years; and the equally far-reaching change in educational philosophy which has placed a premium upon the teaching of the fundamentals of scientific theory and fact."

He pointed out that it is commonly believed that textile education has remained static during this dynamic decade and it has ignored these changes in industry and education. Lydon said, "this belief is not warranted. Measured by the generally-accepted criteria for evaluating the instructional and research activities of other fields, textile education would appear to have been improved to the point where many of its programs deserve to be accorded full professional recognition and status." Deepening and broadening its scientific base in the future, Lydon concluded, textile education gives every evidence of constituting a most effective medium for providing research and production personnel and services which will be of incalculable value to the textile industry.

The subject of the Air Force speaker, Dr. Harris M. Burte, Material Laboratory, Wright-Patterson Air Force Base, Ohio, was "Materials Research—The Key To Progress In Aeronautics and Astronautics." He discussed some of the more important research requirements surrounding the Air Force materials program.

Peroxide Decomposition

David M. Cates, School of Textiles, North Carolina State College, Raleigh, spoke on "The Stabilizer In Hydrogen Peroxide Bleaching." He said stabilized hydrogen peroxide decomposed at a slower rate than unstabilized peroxide, and, for a given amount of decomposition, was more effective in raising reflectance and causing chemical change. The reflectance per unit reduction of viscosity, however, was the same, he pointed out. This suggests damage to contiguous

regions of cellulose is unavoidable and related to the amount of colored impurities destroyed. The reflectance of specially purified cellulose was raised at the cost of a very small decrease in viscosity, Cates noted, suggesting that chemical damage caused by the presence of catalytically active sites on the cellulose.

L. Rebenfeld, Textile Research Institute, spoke on "Response Of Several Cottons To Chemical Treatments." He said single fibers from six carefully selected cottons were subjected to four chemical treatments under a tensile force of 0.1 gram. The treatments investigated were: water, 10 M urea, mercerization, and a combination of 10 M urea and mercerization.

The initial, non-destructive portion of the fiber stress-strain curve was evaluated for each fiber prior to the treatment and the entire stress-strain curve was evaluated after the chemical treatments. Thus, it was possible to determine the changes in fiber properties on a fiber to fiber basis at least as far as the non-destructive fiber characteristics are concerned, Rebenfeld said. Fiber length, elastic modulus, breaking extension and breaking stress were considered by Rebenfeld. Many changes in fiber properties due to the chemical treatments could be interpreted in terms of the degree of fibrillar orientation of the six cottons as estimated by the X-ray angle.

Photographic Study

The Microdyeoscope and the high temperature pressurized Microdyeoscope have revealed hitherto unknown facts about fibers and dye baths, according to Henry E. Millson, American Cyanamid Co., in his paper "Continuous And Time-Lapse Motion Pictures Through The Microdyeoscope." It has been interesting, he noted, to observe changes as they occur in fibers and baths during dyeing in the temperature range of 50 to 325 degrees Fahrenheit. The use of a large number of sequential still photographs and voluminous notations has made it possible to record such changes for subsequent interpretation.

Millson said motion pictures in color and their enlargement to great size by projection on a screen are frequently more revealing than a visual study through the Microdyeoscope. Motion pictures also have the advantage of being viewed by a large group simultaneously. A film can also be stopped and started for more detailed study. He said that the use of time-lapse motion pictures enables the viewer to see within a few minutes a dyeing cycle which may have required several hours to perform.

Millson reported equipment has been assembled for both continuous and time-lapse motion picture photography. The preliminary results indicate it may be possible to capture and reveal some of the interesting phenomena in the sequence in which they occur during the dyeing operation.

Fabric Streaks

"The Characterization Of Fabric Streaks" was the title of a paper given by Ferndinand Schulze, The Du Pont Co. He said in spite of the widespread occurrence of streak defects, little work has been done on the basic chemistry, physics and optics of these defects. Streaks have been variously referred to as dye streaks, luster streaks or spacing streaks without a clear understanding of the nature of such defects.

Schulze told the group means for identifying the various types of streaks have shown the existence of at least five types. These were classified as internal streaks, and external

or physical streaks. The internal streaks are: (1) dye streaks; and (2) intrinsic luster streaks. The external or physical streaks are: (1) yarn texture streaks; (2) fabric configuration streaks; and (3) spacing streaks. He described methods used for proving the existence and nature of the various types of streaks and an improved streakmeter for quantitative measurement of streak intensity.

A paper, "Theory Of Fiber Friction," was presented by Henry M. Morgan, Fabric Research Laboratories. He said most of the recent work on fiber friction has been involved with the empirical fitting of mathematical formuli to experimental data. The theory he proposed was developed from simple stress analysis and a maximum shear stress criterion. It does not require the introduction of variable "constants," he said. In addition, Morgan presented data on the lateral stress behavior of some fibers which is related to the theory of friction.

Fiber Production By Spraying

Derek E. Till, Arthur D. Little Inc., presented a paper, "Production Of Fibers By Spraying." The paper was mainly concerned with the production of fibers from solutions of polymers such as vinyls, styrene, acrylonitrile, etc. Till briefly described the spray equipment and the way in which electrostatic fields are arranged to facilitate the collection of extremely fine fibers. He also discussed process variables, including the choice of solvent systems, and the beneficial effect of the electrostatic field in separating airborne fibers so that extremely rapid removal of high boiling solvents is facilitated.

Some variables effecting the design of spray nozzles were mentioned by Till. The ultimate fiber diameter is not critically dependent on the internal diameter of the jet, he said. The influence of fiber-forming air velocity on fiber length and diameter was also explored by Till.

The speaker discussed the nature of the products, some of which may be as small as 1/10 of a micron in diameter. The profound influence of the electrostatic field on the nature of the product was described by Till. The charge permits very long fibers to be collected in a substantially individual fashion. Uncharged fibers tend to aggregate into "ropes" and "pills," he said.

Nylon's Stress-Strain Behavior

"Stress-Strain Behavior Of Nylon In Tension and Compression" was the subject of John B. Miles, The Chemstrand Corp. He showed, mathematically, the effect of temperature and rate of elongation on the tensile stress-strain curve of Nylon 66 at constant rates of elongation can be generalized.

The stress-strain relationships in axial compression, in the direction of the oriented fiber axis, were said by Miles to be very different from those in tension. In the sample of drawn bristle studied at low strains the moduli at a rate of strain of 0.2% per minute are essentially equal. However, at a strain of only 3%, the stress is about 15% greater in tension than in compression. At higher strains the curves are radically different, he said. Miles also discussed the effect on the bending behavior of these differences in tensile and compressive stress-strain relationships.

Average Weight Woolen, Worsted Goods Drops

During the period from 1939 to the first quarter of 1958 the average weight of a square yard of woolen and worsted fabric decreased from 10.1 ounces to 8.1. In 1947 the

average weight was 9.1 ounces per square yard, according to a report from the Bureau of the Census. During the years covered by this report, there have been major changes in the pattern of production for woolen and worsted fabrics. In 1939, non-apparel fabrics accounted for 15% of the total output. This decreased to 12% in 1947; 8% in 1954 and 4% in 1958. In addition, the total production of woolen and worsted fabrics decreased from 509 million linear yards in 1947 to 291 million linear yards in 1957. These changes in production had a significant effect on the over-all relationship of pounds to square yards and linear yards.

Wool Stocks Decline

According to the U. S. Department of Commerce, total stocks of raw wool in the U. S. on January 1, 1959 amounted to 125.2 million pounds (scoured basis). This represented a decline of 23.6 million pounds from the 148.9 million pounds reported for January 1, 1958.

Stocks of apparel wool on January 1 amounted to 91.7 million pounds (scoured basis). This included 61.8 million pounds of domestic wool and 29.9 million pounds of foreign wool. The comparable figures for January 1, 1958 in million of pounds (scoured basis) was 115.1 for total apparel wool stock, 79.0 for domestic apparel wool, and 36.1 for foreign apparel wool stocks.

Dealers stocks of apparel wool decreased from 56.0 million pounds on January 1, 1958 to 35.3 million pounds on January 1. Manufacturers' and topmakers' stocks declined from 59.1 million pounds to 56.4 million pounds. For these companies stocks of domestic wool increased while foreign wool stocks declined.

On January 1, 1959 there was 33.5 million pounds (scoured basis) of carpet wool held by manufacturers and dealers. This represents declines of .2 million pounds from the January 1, 1958 level and 1.6 million pounds from the October 1, 1958 level.

Cotton Consumption And Spindle Activity Up

Consumption of cotton in the U. S. in March totalled 862,582 running bales as compared with 699,652 bales in February and 629,665 in March 1958. The daily average consumption totalled 34,503 bales in March against 34,983 in the previous month and 31,483 in March of last year.

Total consumption of foreign cotton for March was 9,672 bales against 7,639 in February and 5,588 in March 1958. Man-made fiber staple consumption for the month was 46,594 against February's 40,442 and 32,910 in March a year ago.

Cotton system spindles in place in March totalled 20,709,000 as compared with 20,388,000 in February and 20,795,000 in March 1958. The number of active spindles was 19,265,000 as compared with 19,272,000 in the previous month and 19,368,000 in March of last year. The spindles were operated a total of 11,706,000,000 hours in March. This compared with 9,542,000,000 in February and 8,620,000,000 in March 1958.

C.M.I. Names Committee Heads

Textile mill executives from many areas have been named to chairmanships of standing committees of the American Cotton Manufacturers Institute for the 1959-60 fiscal year. Announcement of appointment of the chairmen was made by James A. Chapman of Inman, S. C., president of Inman

and Riverdale Mills and president of the institute. Around 200 mill men from Maine to Texas serve on the various committees that handle specific areas of activity for the institute. The chairmen include:

Audit ..... C. R. Walters, Vice-President
Abney Mills, Greenwood, S. C.

Budget, Finance and Policy ..... J. M. Cheatham, President
Dundee Mills Inc., Griffin, Ga.

Cotton ..... Ellison S. McKissick, Treasurer
Alice Mfg. Co., Easley, S. C.

Cotton Policy ..... C. A. Cannon, President
Cannon Mills Co., Kannapolis, N. C.

Long Staple Cotton ..... Percy S. Howe Jr., President
The American Thread Co., New York, N. Y.

Design Protection ..... William G. Lord, President
Galey & Lord, New York, N. Y.

Economic Policy ..... Alan B. Sibley, Vice-President
Judson Mills, Greenville, S. C.

Education ..... Morris M. Bryan Jr., President
The Jefferson (Ga.) Mills

Foreign Trade ..... Halbert M. Jones, President
Waverly Mills, Laurinburg, N. C.

Labeling ..... Robert P. Lynn, Assistant Secretary
Burlington Industries Inc., New York, N. Y.

Man-Made Fibers and Silk ..... Robert M. Schwarzenbach, President
The Schwarzenbach Huber Co., New York, N. Y.

Market Development and Expansion ..... William E. Reid, President
Riegel Textile Corp., New York, N. Y.

Membership ..... R. Dave Hall, Treasurer
Climax Spinning Co., Belmont, N. C.

National Affairs ..... William H. Ruffin, President
Erwin Mills Inc., Durham, N. C.

Public Relations ..... R. Arthur Spaugh, President
Washington Mills Co., Winston-Salem, N. C.

Research and Technical Service .. Walter Regnery, President
Joanna (S. C.) Cotton Mills Co.

Tax ..... Benjamin O. Johnson, General Counsel
Spartan Mills, Spartanburg, S. C.

Traffic ..... James C. Self, President
Greenwood (S. C.) Mills

Board of Appeals (representative) ..... A. B. Emmert, Vice-President
Dan River Mills, Danville, Va.

General Arbitration Council of the Textile Industry (representative) ..... E. M. Fuller, Secretary-Treasurer
Greenwood Mills Inc., New York, N. Y.

Textile Education Council Holds Meeting

The National Council for Textile Education, at its biannual meeting in New Orleans, La., reviewed cotton research at the U. S. Department of Agriculture's Southern Utilization Research and Development Division. Particular attention was focused on improvements in wash-wear techniques and improved textile machinery developments.

Dr. J. David Reid, of the Cotton Chemical Laboratory, discussed with council members current research problems and demonstrated results of some of the newer methods developed by Agricultural Research Service scientists for finishing cotton fabrics. Fundamental work to supplement practical work on wash-wear to produce the best possible finishes for drip and tumble drying of cotton garments was described.

Chemist George L. Drake Jr., discussed promising research under way on whole cloth and cotton garments for wrinkle resistance and crease retention. He demonstrated with treated and untreated fabrics the labor-saving value of these treatments developed at the Southern Laboratory.

Several members of the council stated that as a result of the keen interest in wash-wear cotton garments textile schools have begun to reappraise their programs. At least one council member stated that his textile college is making tentative plans to offer a course in wash-wear techniques in the near future.

The S.R.R.L. opener-cleaner for processing cotton and the newly developed granular card, designed to reduce fiber waste in textile mills, were demonstrated. Ralph A .Rusca, of the Engineering and Development Laboratory, pointed out that the S.R.R.L. granular card is the first significant improvement in carding equipment in more than half a century. Conventional carding equipment can be converted at low cost. In addition to dramatic reductions in fiber waste, the new card requires less maintenance and power.

Other matters of interest to council members included the exhibit of the electron microscope by Mary L. Rollins and slides showing its superiority in capturing minute details at great magnifications as compared to the conventional microscope; and experimental equipment in the textile mill and pilot plant.

Dr. C. H. Fisher, laboratory director, greeted the council representatives. Attending the meeting were Prof. Cleveland L. Adams, head of the School of Textile Technology at Alabama Polytechnic Institute, Auburn, Ala.; Dr. Malcolm E. Campbell, dean, School of Textiles, North Carolina State College, Raleigh, N. C.; Dr. John H. Dillon, director, Textile Research Institute, Princeton, N. J.; Dr. L. H. Hance, president, Institute of Textile Technology, Charlottesville, Va.; Dr. Don Partridge, dean of students, Philadelphia Textile Institute, Philadelphia, Pa.; Dr. Martin J. Lydon, president, Lowell Technological Institute, Lowell, Mass.; Harry Reimer, editor, *Daily News Record*, New York, N. Y.; Dr. James L. Taylor, director, A. French Textile School, Georgia Institute of Technology, Atlanta, Ga.

Tire Cord Production Down

Production of tire cord and tire fabric in 1958 amounted to 260.5 million pounds. This was 24% below the 1957 level and 41% below the 1955 output of 444.0 million pounds. Production of nylon tire cord and tire cord fabric continued to increase and in 1958 amounted to 95.6 million pounds, or 24% of the entire output. In 1957, the production of nylon tire cord and tire fabric amounted to 86.7 million pounds. All figures are from the U. S. Department of Commerce.

Acetate And Rayon Shipments Increase

Shipments of acetate yarn and rayon totaled 97,800,000 pounds in April, a decline of 2% from March but 38½% more than April 1958 shipments of 70,600,000 pounds, according to *Textile Organon,* statistical bulletin of the Textile Economics Bureau. Deliveries in the latest month included 96,400,000 pounds for the domestic market and the balance for export.

High tenacity viscose yarn shipments amounted to 29,000,000 pounds in April compared with 29,700,000 pounds in March and 17,500,000 pounds in April 1958. Deliveries of regular+intermediate tenacity rayon yarn in April came to 16,400,000 pounds, off 5½% compared with March but 29% above April 1958. Acetate filament yarn shipments last month were 20,700,000 pounds, up slightly over the previous month and 17½% greater than shipments in April a year ago.

Rayon staple+tow shipments in April totaled 31,700,000 pounds, a decline of 4% from March, but 39% over the corresponding month last year. Total shipments of acetate yarn and rayon were 1,300,000 pounds greater than output and producers' stocks declined by this amount to the level of 93,300,000 pounds at the end of the month. Stocks at the end of April 1958 were 126,100,000 pounds.

The *Organon* tabulation of first quarter 1959 production of man-made fibers (excluding acetate staple+tow) shows that the total came to 457,900,000 pounds, an increase of 3% over the 444,200,000 pounds produced in the fourth quarter of 1958 and 23% above output in the first quarter of 1958. The man-made fiber output in the first quarter of 1959 included 271,100,000 pounds of acetate yarn and rayon, 33,000,000 pounds of textile glass fiber and 153,800,000 pounds of non-cellulosic man-made fibers.

Production of acetate yarn and rayon yarn and staple amounting to 271,100,000 pounds was 2½% over output in the fourth quarter of 1958 and 12½% greater than output in the first quarter of 1958. First quarter production of non-cellulosic man-made fibers at 153,800,000 pounds exceeded the previous quarter by 4½% to establish a new quarterly record; in the latest quarter, there were 98,200,000 pounds of non-cellulosic filament yarns+monofilaments and 55,600,000 pounds of staple+tow produced, both new quarterly highs. The January-March output of textile glass fiber was also a new quarterly record.

Cotton Promoted In National Magazines

Textile advertisers have been stepping up their promotion for cotton products in recent years. A National Cotton Council study of national magazine advertisements shows that expenditures for space devoted to cotton products amounted to $23,806,104 last year. This figure represented a slight decrease from the record $24,506,491 expended in 1957 and a substantial increase over figures in previous years. Textile advertisers are putting increased emphasis on cotton as a selling point for fabrics and apparel, the survey has showed. In 1945 only 17% of magazine advertisements for cotton products mentioned the cotton content; this ratio increased to 48% in 1952, 63% in 1956, 66% in 1957, and 62% in 1958.

Polypropylene Fiber Usefulness Increasing

On the basis of continued experimental work, polypropylene fiber becomes more promising as a new textile material, all the more as problems such as ultra-violet stability and dyeability are being overcome. This is the conclusion reached by Dr. Victor L. Erlich, vice-president, Reeves Bros. Inc., who spoke at the 29th annual meeting of the Textile Research Institute in New York City, March 24. His subject was "Polyolefin Fibers and Polymer Structure." Polyolefins comprise polyethylene and polypropylene.

Polypropylene fibers in particular lend themselves to desirable textile operations, said Dr. Erlich. They can be spun, crimped, and textured to be used for knitted, woven and nonwoven fabrics, as well as in blends with natural or other synthetic fibers. One of the assets of polypropylene fiber is its comparatively low cost. The dyeing of these fibers will be of importance. At present they are colored by pigmentation. "It can be said now," Dr. Erlich stated, "that quite encouraging progress has been made in dyeing with an array of colors, still limited for the time being."

Considerable progress has also been achieved, according to Dr. Erlich, in stabilizing polypropylene monofilaments against degradation under sunlight—a problem common to many other fibers, natural and synthetic. Commercial production of polypropylene fiber has so far been confined to gages ranging down to about 40 denier, suitable for industrial applications.

Tire Cord And Fabric Production Up

Production of tire cord and tire fabric during the first quarter 1959 was 123,374 thousand pounds. This was 9% above the previous quarter, and 20% above the first quarter 1958 level, according to the Bureau of the Census.

The output of rayon tire cord and tire cord fabric increased 6% from the previous quarter's level to 78,020 thousand pounds. During the same period the production of nylon tire cord and tire cord fabric increased 16% to 31,680 thousand pounds, while the production of cotton tire cord and tire cord fabric (excluding chafer fabrics) decreased 28%.

Stocks of tire cord and tire cord fabrics on April 4, 1959, were 37,570 thousand pounds, or 4% below the January 3, 1959, level and 21% less than the stocks on March 29, 1958.

Woolen And Worsted Activity Off

Woolen spinning spindles in place as of December 31, 1958, totaled 703,033, according to the Bureau of the Census. This represents a decrease of 6% from the December, 1957, level and 34% decrease compared to June 30, 1953. During 1958 there was an 11% decrease in the number of woolen spindles at carpet and carpet yarn mills. A decrease of 5% was reported for other mills.

Worsted spinning spindles in place as of December 31, 1958, totaled 636,096. This is 11% below the 711,958 spindles in place on December 31, 1957, and 61% below the 1,651,356 spindles in place on June 30, 1953. There were 580,927 woolen and worsted spindles in place in New England on December 31, 1958. This represented a decline of 9% from the 635,761 spindles in place on December 31, 1957, and an 18% decline from the number in place on December 31, 1956. During these years the number of spindles in place at mills in the Middle Atlantic States and the North Central States also showed declines.

Labor Reform Bill Attacked As Inadequate

Sen. Barry Goldwater (R., Ariz.) has attacked the labor reform bill (S. 1555) awaiting Senate floor action, as an inadequate measure loaded with gimmicks. Among the 24 faulty provisions the Senator cited was one which banned employers from making payments to representatives of their workers. The term "representative" according to the Supreme Court is not limited to a spokesman for collective

bargaining purposes. Thus, Sen. Goldwater said, "it is possible under this provision for an employer to commit a crime if he gives a material reward to the president of his employees bowling league for his success in running a bowling tournament."

The same section of the bill bans unloading fees to be paid by employers or truck drivers. This is deemed to be illegal already, under the Hobbs Act, but this section does not ban union pressure to require a truck driver to join the union in order to unload his truck. Extortion picketing apparently is banned under another section of the bill, but again, such extortion actions already are a crime under State and Federal law. The section does nothing about picketing to force an employer to make payments to a union rather than to a specific individual.

The Senator said the bill would require financial reports by labor relations consultants on their activities involving employers. Some of these consultants may be attorneys and this provision would upset the attorney-client relationship in which confidentiality is protected by law in every state.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Raymond L. Whitney has been named manager of J. P. Stevens & Co.'s branch sales office. Whitney is now responsible for branch office sales of all divisions of the company and will make his headquarters in the New York City office. Whitney, who was previously manager of the Dallas, Tex., office, joined the organization in 1935 in a selling capacity. John Holmes has been named to replace Whitney as manager of the Dallas office. Holmes, who has had wide experience in the Texas market, joined Stevens in 1940, at which time he was assigned to a training program, and worked in the cotton division in the New York office.

WHITIN OLD-TIMERS HONORED —more than 13,000 years of service to the textile industry were represented at a recent old-timers banquet held by Whitin Machine Works. It may not be an all-time record, but the 282 Whitin employees honored had accumulated 13,074 years of service. Only old-timers with 40 or more years of service were represented at tthe testimonial banquet presided over by Board Chairman E. Kent Swift, himself the third oldest active employee with 59 years of service. He is shown here with William J. McNeill, outside erector, who has a 61-year service record with the company. Of the 282 employees honored, half are still active.

R. Lee Brown has been appointed director of industrial relations of Saco-Lowell's textile machinery division. Brown was previously associated with Thompson Ramo-Wooldridge Inc. of Cleveland, Ohio, where he served in various personnel capacities at its main plant in Cleveland.

Norman C. Stiles has been appointed director of foreign services for the Chemstrand Corp., Decatur, Ala. As a part of his new assignment, Stiles will co-ordinate the corporation's relations with Chemstrand oversees affiliates. He has been with Chemstrand since June 1951 and prior to his new assignment served as director of purchasing.

L. M. Calhoun has been appointed district sales manager of the Greenville area for Johnson Motor Lines. Calhoun will also represent Atlantic States Motor Lines Inc. in the area. He has served as special traffic representative in the area for the past year and a half. . . . Jimmie O. Newton has been appointed district sales manager of the Charlotte area for the companies. Newton has served as a traffic representative in the area for the past five years.

Allan Butterick has been named to succeed the late Richard C. Pohlers as head of the Simtex Furniture & Tickings Department of J. P. Stevens & Co. Long associated with the field of textiles, Butterick was with the drapery division of Burlington for many years, where he served in an executive capacity. He was associated with Jofa Inc. of New York as general sales manager. In 1954 he joined Stevens as head of the synthetic draperies department.

John C. Tate Jr. has been transferred to Greenville as executive assistant to C. A. Gibson, president of B. I. Cotton Mills, a division of Burlington Industries, Greensboro, N. C. Tate has been on the staff of James King, vice-president of Burlington Industries in charge of industrial engineering in Greensboro. Tate joined Burlington in October 1943, and has served in various manufacturing and administrative capacities.

Hoyt S. McGhee, assistant overseer of the weave department of the Griffin, Ga., plant of Thomaston Mills has been promoted to overseer of the department. McGhee, who joined the company in 1950, was previously associated with the Fulton Bag & Cotton Mills in Atlanta.

John M. Feeley, formerly sales manager, has been appointed vice-president in charge of sales for the Dixon Corp., Bristol, R. I., manufacturer of Saddle Guide Changeovers for modernizing spinning frames, and Rulon and Teflon fluoro-carbon products. In his new position, Feeley will be responsible for sales offices in the South selling to the textile industry.

Dwight A. Wilkinson, assistant foreman in the plant service department of the finishing mill of Fieldcrest Mills, Spray, N. C., has been promoted to general foreman of the finishing mill and bleachery on the second shift. Wilkinson has been with Fieldcrest since 1956. He was formerly with Highland Park Mfg. Co., Charlotte for 12 years.

Three promotions of key personnel have been made by M. Lowenstein & Sons, New York City. Robert W. Smith, vice-president of the Cotton & Storage Corp., was elevated to the presidency. Smith, who joined the company in 1941, was previously with Riegel Textile Corp., New York City. . . . Roy

Coffee has been named vice-president of the Orr and Lyons Division of Anderson, S. C., Wamsutta Mills at Lyman, S. C., and the four Pacific Mills of the company in Columbia. . . . Henry Buchanan, a 1941 graduate of Clemson College, was named vice-president of Limestone Mfg. Co., Gaffney, S. C., Spofford Mills, Wilmington, N. C., Covington (Ga.) Mills and Huntsville (Ala.) Mfg. Co.

Ralph O. Williams has joined the sales staff of A. Gross & Co., New York City, manufacturers of fatty acids and glycerides. He will make his headquarters in Charlotte and will handle sales and technical service for the company in North and South Carolina, Virginia and eastern Tennessee. Williams has most recently been plant manager of the Wica Co. in Charlotte.

A. A. Whitehead of Gem Mills Co. of Charlotte has been named personnel director of Newberry (S. C.) Mills.

William Gage Brady Jr., chairman of American Enka Corp., Enka, N. C., has been elected president of the company. Brady will serve in both capacities until the end of this year, at which time the company expects to name a new president as successor to the late John E. Bassill, who died April 17. Brady has been chairman of the board since 1953, following his retirement as chairman of the National City Bank of New York.

Eugene R. Shaw

Eugene R. Shaw has joined Stein, Hall & Co. as a burlap sales specialist in the company's Atlanta branch sales office. He will call on the manufacturers of tufted carpets in Georgia and Tennessee, and will also sell the full line of Stein Hall's burlap products in that area. Shaw has been employed in the textile industry in Georgia for the last nine years where his experience ranged from cost accounting to a position as mill superintendent.

Irenee du Pont has retired from the Du Pont Co. board, where he had been honorary chairman since 1954. Du Pont was the second of three brothers who headed the company in succession from 1914 to 1940. His son, Irenee Jr., succeeds him on the board. He had served as president of the firm from 1919 to 1926. During his time as president, he instituted a reorganization of the company that resulted in its decentralization and took an active role in extending the company's interest to embrace rayon, cellophane and other chemical products.

John E. Field

Cone Mills Corp. has announced the appointment of three new members to its board of directors. They are . . . John E. Field, secretary-treasurer of Cone Mills Inc. Field joined Cone in 1937. In 1950 he was named assistant secretary and in 1955 was made secretary-treasurer. . . . Percy C. Gregory Jr., executive vice-president of the finishing division. Gregory,

Percy C. Gregory Jr.

Lewis S. Morris

previously with Union Bleachery as general manager, was named assistant vice-president in 1953. He was made a vice-president in 1957 and was named to his present post in 1958. . . . Lewis S. Morris, secretary and assistant treasurer of Cone Mills Corp. Morris has been with the company since 1937. He was named assistant secretary in 1952. In 1956 he was made secretary and assistant treasurer.

Harold T. Shehan, assistant converter market manager for Reynolds Metals Co., has been promoted to converter market manager. He succeeds Glenn E. Carter, who has been promoted to director of converter markets for the company. In his new job, Carter will direct sales in both converter and textile markets.

Patrick A. DeBiase and C. Chester Bassett Jr., have been elected corporate vice-presidents of Bigelow-Sanford Carpet Co., New York City. DeBiase has been elected vice-president for marketing, and Bassett has been elected vice-president for Hartford Rayon. Previously, DeBiase was divisional

vice-president for the marketing of Bigelow rugs and carpets, assistant to the president and co-ordinator of marketing, design, research and development. In his new office, he will continue as assistant to the president with the co-ordinator functions. Bassett previously was divisional vice-president of Bigelow-Sanford's Hartford Rayon Division, which manufactures rayon staple.

John Tice has assumed duties as plant engineer at the Hillside Plant of the Hillcrest Division of Callaway Mills, LaGrange, Ga. He joined the firm in 1955.

Thomas B. Porter, salesman in the New York district office of the Armstrong Cork Co.'s industrial division, has been assigned to the company's Greenville, S. C., office as a resident salesman. Porter joined Armstrong in 1957 and was assigned to the New York office after completing sales training at the home office in Lancaster Pa.

John R. Sherrill, formerly sales manager, has been named director of marketing of the fibers division of Eastman Chemical Products Inc. Sherrill will have charge of advertising, promotion, merchandising, direct sales, sales development and sales service. . . . C. F. Earnhardt has been named sales manager of the acetate fiber sales and will have direct supervision of all field sales forces and all district offices. . . . W. T. Jackson, manager of Kodel fiber sales, will also supervise sales development and sales service activities of that fiber. . . . A. A. Owen has been named manager of Verel fiber sales.

Kirk P. Ferguson has been named manager of the New York district office of the Du Pont Co.'s dyes and chemicals division, succeeding Sidney M. Conn who, pending his retirement June 30, will act as consultant to the New York office. Ferguson has been assistant district manager for the last three and a half years. He joined Du Pont's dyes and chemicals division in 1940 and was assigned the following year to the Chicago office for field sales training.

Stanley Brooks has been elected vice-president in charge of sales of H. W. Butterworth & Sons Co., Bethayres, Pa., division of Van Norman Industries Inc. Brooks was chief engineer of Textile Finishing Machinery Co., Providence, R. I., until its purchase by Butterworth in 1944. After seven years in the New England sales office, he became chief engineer at Butterworth in 1951. Most recently his responsibilities have been in research and development, working on new processing techniques. He succeeds Edward S. Pierce, who recently resigned.

John E. Schuler has been named Southern industrial division manager for Permacel, New Brunswick, N. J. Schuler joined Permacel in 1944 as a sales department engineer and was subsequently product manager and field sales manager. His last assignment was Eastern electrical division manager.

Hugh G. (Spot) Brown Jr., formerly with Pepperell Mfg. Co.'s plant in Lindale, Ga., has been named overseer of the dyeing department at the Eagle & Phenix Division of Reeves Bros. at Columbus, Ga.

T. H. Holcomb, superintendent of Dan River Mills' Rome, Ga., plant, has been transferred to the Winfield, Ala., division as superintendent. Operations at the Rome plant have been halted since last Fall. Holcomb has been associated with the mill for 37 years.

Dr. James L. Taylor has been named director of the A. French School of Textiles at Georgia Tech. Dr. Taylor has been a member of the faculty since 1936. In 1949 he was the recipient of the Georgia Tech Sigma Xi faculty research award in recognition of his contribution to textile chemistry through research on ramie fibers. He was one of the first men to work on fiber blends of synthetics and cottons.

A number of new promotions have been announced by Abbeville Mills. . . . Sam J. Guilford assumes the duties of assistant production planning manager. . . . Bill Cameron has been named assistant planning supervisor for the greige mill. . . . Willie Copelan Jr. has been appointed supervisor of the finishing plant.

Murray Stempel has been named president of Morningstar-Paisley Inc. Stempel succeeds George J. Muller, who has been elected vice-chairman of the board. Morningstar-Paisley Inc. is a major producer of starches, gums, dextrines, adhesives and chemical specialties for the textile industry.

A number of top organizational changes in Allied Chemical Corp.'s Solvay Process Division, have been announced. Wilbur H. Brunfield has been named to the post of executive vice-president . . . Raymond Largent, formerly assistant director of development, has been named a vice-president. . . . Benett D. Buckles has been appointed assistant to the president. . . . Dr. Robert H. Reed is now assistant director of development. . . . A. Gregg Noble fills the newly-created post of director of purchases. . . . Dr. Herbert C. Wohlers becomes director of research. . . . Raymond C. Baxter, formerly chief engineer, is now assistant director of operations. . . . Richard A. Hiserodt is chief engineer. . . . Robert K. Croll is assistant chief engineer. . . . Dr. Alan G. Follows has been named assistant director of research.

Sidney Milton Edelstein has been named a fellow of the Textile Institute of Manchester, England. Edelstein is president of the Dexter Chemical Corp. of New York.

W. M. McFeely, vice-president-industrial relations for both Riegel Textile Corp. and Riegel Paper Corp., has been appointed vice-president in charge of organization for both corporations. He will continue to report to John L. Riegel, chairman of the board of directors. . . . P. V. Kolonia, formerly co-ordinator of placement for both firms has been appointed supervisor of placement for both corporations. . . . J. T.

Allmon has been named supervisor-management development. Allmon, who has been personnel director of the glove division, will move to New York. . . . B. P. Robinson has been named director of industrial relations for Riegel Textile Corp. Robinson was formerly personnel director of the Ware Shoals Division. He will make his headquarters in the Southern executive office.

Garland Sligh has been promoted from plant engineer to overseer of wool carding and spinning at the Hillside Plant of the Hillcrest Division of Callaway Mills, LaGrange, Ga. Sligh has been with the company since March of 1958. Previously he was with the U. S. Rubber Co.'s Hogansville, Ga., plant.

A number of promotions have been made at Drayton Mills, Spartanburg, S. C. . . . William Lowndes III, formerly technical superintendent, becomes products manager for synthetics. . . . Wallace F. Starnes, formerly overseer of carding, has been named superintendent of yarn manufacturing. . . . Harold D. McAbee has been elevated from superintendent of yarn manufacturing to preparation superintendent. . . . Gabe C. Hill III, supervisor of test line, has been promoted to overseer of carding. . . . Fred E. Haynes Jr., formerly overseer of quilling, is now overseer of weaving. . . . C. Yates Parriss has been elevated from warp replacement superintendent to assistant overseer of weaving. . . . Forest S. Caton, formerly loom fixer, has been named warp replacement supervisor.

Leslie E. Reynolds has been promoted to plant engineer of Judson Mills, Greenville, S. C. Reynolds has been assistant plant engineer since September.

Travis J. Martin

Travis J. Martin has joined the advertising firm of E. J. Presser & Co., Charlotte, as an account executive. The firm specializes in textile accounts. Martin was previously associated with United Merchants & Manufacturers. He is a graduate of North Carolina State College with a degree in textile manufacturing.

Paisley Boney, assistant manager of the purchasing department of J. P. Stevens & Co., Greenville, S. C., was elected vice-president of the National Association of Purchasing Agents at that group's recent meeting.

Arthur E. Weiner has been named an assistant vice-president of Burlington Industries following his transfer from New York to the Greensboro, N. C., offices of the firm. Weiner will serve as executive assistant to Spencer Love, Burlington chairman and president, and Vice-Chairman J. C. Cowan Jr. He will have responsibilities in both staff and manufacturing areas of the company's Southern operations. A graduate of the University of North Carolina, Weiner joined Burlington Industries in 1953. He spent two years in Greensboro, working in personnel and management development areas, before going to Burlington's New York offices in 1955. In New York, he served successively as director of executive development, executive assistant to the chairman and president, and sales manager in the company's Burlington House Fabrics Division.

William C. Whitten, associate professor of textiles at Clemson College, has been elected Grand Council secretary of Phi Psi, the national honorary textile fraternity.

Danny M. Courtney, formerly assistant vice-president of the First Union National Bank of North Carolina, has been named to an executive post with a group of textile plants headed by R. Barton Hayes of Hudson, N. C. The group includes Hudson Cotton Mfg. Co., Moore Cotton Mills Co., Hayes Cotton Mills Co. and Caldwell Cotton Mill Co., all of Caldwell County.

Z. C. Evans has been named overseer of spinning at the Newberry (S. C.) Mills.

Burlington Industries has named new presidents of two major company divisions. They are James S. Love Jr., named president of Sidney Blumenthal & Co., and Max Hesse, who succeeds Love as president of Burlington Ribbon Mills. Both will be headquartered in New York. Love has been president of Burlington Ribbon Mills since 1957. He joined the division in 1955 as

sales manager. Prior to this he was with Madison Throwing Co. and Ansonia Mills. He first entered the textile industry in 1949 and until 1951 was with Burlington Industries in manufacturing and staff positions. Hesse, formerly a vice-president of Burlington Ribbon Mills, has held varied executive sales and manufacturing responsibilities in the division. He has been with the Burlington Industries organization since 1945. Sidney Blumenthal is a major producer of pile fabrics for furniture, apparel, toys, automotive, carpet and other end uses. Burlington Ribbon Mills is a leading producer of woven narrow fabrics.

Edward (Randy) Gasque has been named overseer of the cut order department of the Hillside Plant of the Hillcrest Division of Callaway Mills, LaGrange, Ga. He joined the company in June 1958.

Cameron A. Baker, manager of the textile research department of the United States Testing Co. of Hoboken, N. J., and Sumner H. Williams, vice-president of General Aniline & Film Corp. of New York, N. Y., were made honorary members of Phi Psi Fraternity at the annual meeting of the group in Atlanta, Ga. recently. Phi Psi is a national organization, having chapters in all of the textile institutions of learning and in major textile centers throughout the country.

M. A. Lynch Jr. has been named product manager for textile products for the silicones division, Union Carbide Corp., New York City. Lynch joined the Linde Co., division of Union Carbide Corp., in 1949 at its laboratories in Tonawanda, N. Y., doing inorganic and organo-metallic research. In 1956 he was transferred to silicones division as manager for market development in the Eastern region, with headquarters in New York City. In 1958 he was transferred to the general office in New York City, specializing in work in textile softeners, finishes and water repellents.

Clyde B. Hinton has been promoted to assistant overseer of wool carding and spinning at the Hillside Plant of the Hillcrest Division of Callaway Mills, LaGrange, Ga. He joined the company in March 1958 as a trainee, after graduating from Auburn with a degree in textile management.

Floyd V. Aiken has been named general overseer of weaving at the Union, S. C., plant of Union-Buffalo Mills, affiliate of United Merchants & Manufacturers. Aiken was previously overseer of weaving at the Georgia Duck & Cordage Plant, Atlanta.

Wayne Hays has joined the chemical engineering staff of the Kendall Co., Kendall Mills Division. Hays will devote his time exclusively to the development of nonwoven fabrics and related processes at the company's plant in Walpole, Mass. He was formerly with Callaway Mills.

W. Faines Huguley, president of F. W. Poe Mfg. Co., has been named vice-president of the B. I. Cotton Mills Division of Burlington Industries. Huguley will have responsibility for over-all operations of Poe and five other plants located in North and South Carolina. . . . Walter Hildebrandt, vice-president in charge of sales and merchandising for B. I. Cotton Mills, has assumed manufacturing as well as sales responsibilities for plants in Sherman and Post, Tex. . . . William Lowe has been named general manager for the company's plants in Cherokee Falls and Valley Falls, S. C., and for Poe Mfg. He will move from Cherokee Falls to Spartanburg.

OBITUARIES

Hugh Y. Ballard, 62, former superintendent of National Yarn Mills at Belmont, N. C., died May 11 at Cherryville, N. C. Mr. Ballard had also served as superintendent of Park Yarn Mill at Kings Mountain and of Rowan Mills in Salisbury. He leaves his widow, two daughters and a son.

Gilbert Brown Heath, 73, prominent textile executive, died in Chester, S. C. recently after several years of declining health. Heath had been president of Manetta Mills of Lando, S. C., and more recently was chairman of the board of directors. He is survived by his widow, two sons and two daughters.

John G. Jackson, former board chairman of American Viscose Corp., died April 27 at his home in New York City. At the time of his death Mr. Jackson was a member of the board of directors of American Viscose and Chemstrand Corp., and chief counsel of American Viscose. His widow and a son survive.

Lester Martin, 52, textile executive, died last month in New York City. At the time of his death Martin was president and chairman of the board of Windsor Industries. Windsor has the controlling stock interest in Bates Mfg. Co., Lewiston, Me., producer of Bates fabrics. Survivors include his widow, a son and two daughters.

John F. Montgomery, retired controller of Deering Milliken & Co., died last month. He leaves his widow and five children.

Richard C. Pohlers, 57, widely known in the textile industry, died last month aboard the ship "Santa Monica" on a homeward-bound voyage from the Caribbean. Mr. Pohlers, a former vice-president of the Simmons Co., and general manager of the Simtex Division, joined J. P. Stevens & Co. when the Simtex Mills organization became a part of the Stevens organization in 1956. He was a sales executive in the cotton division, in charge of merchandising for a number of cotton mills. Surviving are his widow, a brother and a sister.

E. N. Sitton, 67, pioneer textile manufacturer died May 5 at Anderson, S. C. Mr. Sitton was for many years head of Pendleton Mfg. Co., now LaFrance Industries. Surviving are his widow, three daughters and a son.

Myron C. Taylor, 85, organizer of Bay State Cotton Mills which was combined with International Cotton Mills in 1912, died May 7 at his home in New York City. Taylor had also served as chairman of the U. S. Steel Corp. and was presidential representative to Pope Pius XII.

Walter M. Williams, 68, executive vice-president and manager of Virginia Mills, Swepsonville, N. C., died recently. Mr. Williams was also a director of Sellers Mfg. Co., Saxapahaw, N. C., of Jordan Spinning Co. at Cedar Falls and of National Processing Co., Burlington.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

GREENSBORO, N. C.—J. P. Stevens & Co. here has been awarded a contract by the Military Clothing & Textile Supply Agency of the Philadelphia Quartermaster Depot for 5.5 oz. cotton twill, shrunk, fire retardent, 42" wide. The contract calls for 211,000 yards at $290,863.50.

BALTIMORE, MD. — A first-quarter increase in sales of 15.2% accompanied by a sharp rise in earnings has been reported by Mt. Vernon Mills here. Earnings for the period totalled $305,843 or 40 cents a share on sales of $11,675,735. This compares with profits of $76,310 on sales of $10,138,208. Considerable improvement in operations was reported by the company. The volume of forward business during the first quarter was said to be substantially higher than for the same time a year ago.

NEW YORK, N. Y.—Riegel Textile Corp. here has reported consolidated earnings of $622,766 or 61 cents a share on sales of $48,874,882 for the 28 weeks ended April 11 as compared with earnings of $288,222 or 24 cents a share on sales of $43,040,540 for the 28 weeks ended April 12, 1958.

CHARLOTTE, N. C. — The machinery of the idle Louise Mill here has been purchased by Pat Hall Enterprises of Charlotte and Edward Rock Industries of Worcester, Mass. Some 640 looms and 35,744 spindles will be moved by Hall Enterprises out of the building and the property will be liquidated. At the time of its closing several years ago, the plant was operated by Textron Southern Inc.

GAINESVILLE, GA.—Chicopee Mfg. Corp. here has acquired the assets of Refined Products Corp., Lyndhurst, N. J. Refined Products, manufacturer of special processing chemicals and resins for industrial end uses, will be continued as a division of Chicopee. Thomas O. Boucher, Chicopee president, explained the move as another step in the firm's diversification program.

NEW YORK, N. Y.—Pacific Mills, member of Burlington Industries, showed a profit of $952,000 or $1 a common share on sales of $42,508,000 for the first half of 1959. This contrasts with a net loss of $211,000 on sales of $38,386,000 in the first half of the prior year.

SYLACAUGA, ALA.—Avondale Mills with headquarters here has reported net earnings of $526,774 for the 28 weeks ended March 15. After allowance for preferred dividends, this represents 76 cents a common share as compared with 77 cents a common share in the comparable period a year earlier. The company reports that its unfilled orders are 40% greater than they were at the same time last year. The usual quarterly dividend of 30 cents was paid May 1.

MOORESVILLE, N. C.—A $500,000 modernization program is now under way at Mooresville Mills here. Among the major improvements will be the air-conditioning of the main spinning and carding departments of the plant. Long-range plans also call for a new office building to join the plant. The plans also call for external remodeling of the plant.

CLEMSON, S. C.—The Clemson plant of the Utica-Mohawk group of J. P. Stevens & Co. is getting a $2 million expansion. The expansion will be completed by July. It will enlarge the slasher plant and cloth room, provide space for additional finishing and looms, and include new boiler equipment. The plant produces sheets, pillow cases, and other fabrics.

DURHAM, N. C.—Erwin Mills here has reported net sales for the first quarter of $17,988,492 compared with $14,065,275 for the same period in 1958. Earnings for the first quarter of this year totalled $297,818 or 27 cents a share as compared with $256,618 or 24 cents a share in the first quarter of last year. For the six months ended March 31 the company reported net sales of $33,717,994 compared with 26,407,503 in the comparable six-month period a year ago. Profits for the two periods were, respectively, $437,600 or 40 cents a share and $455,050 or 42 cents a share.

OPELIKA, ALA.—Opelika Mfg. Co. here has indicated net income of $279,931 on sales of $4,897,413 for its second quarter ended March 31 as compared with income of $209,330 on sales of $4,439,631 for the comparable period a year ago. The company reported a net increase of 18% in the first half of fiscal 1959, reaching $547,523 or 86 cents a share compared with $463,588 or 73 cents a share in the same two quarters of 1959. A $500,000 expansion program for modernization is now under way at the company's plant in Hawkinsville, Ga.

NEW YORK, N. Y.—United Merchants & Manufacturers Inc. here reports net earnings of $9,670,000 or $1.62 per share of common stock for the first nine months of the current fiscal year as compared with a net profit of $5,463,000 or 91 cents a common share in the like nine months a year earlier.

FITZGERALD, GA.—The Textile Workers Union of America has called its members at the Fitzgerald Mill Corp. out on strike. The strike was called when negotiations for a contract renewal failed. The mill is said to be continuing its regular three-shift operations.

BOSTON, MASS.—Both sales and earnings of the Kendall Co. here for the first 12 weeks of 1959 are up, compared to the similar period of last year, according to President Richard R. Higgins. Kendall's net earnings for the 12 weeks were $857,000 or 81 cents per common share, in contrast to $673,000 or 63 cents per common share for the same period in 1958. Sales, the highest in recent years, were up approximately 9% from the first 12 weeks of 1958, or $25,896,000 against $23,674,000. The demand for Kendall consumer products was high and business in nonwoven fabrics, polyethylene tapes, and foam-rubber coated products has increased, Higgins said. Kendall Co. sales are continuing well above the 1958 level and many parts of the company are working against an unusually large backlog of orders, it was reported.

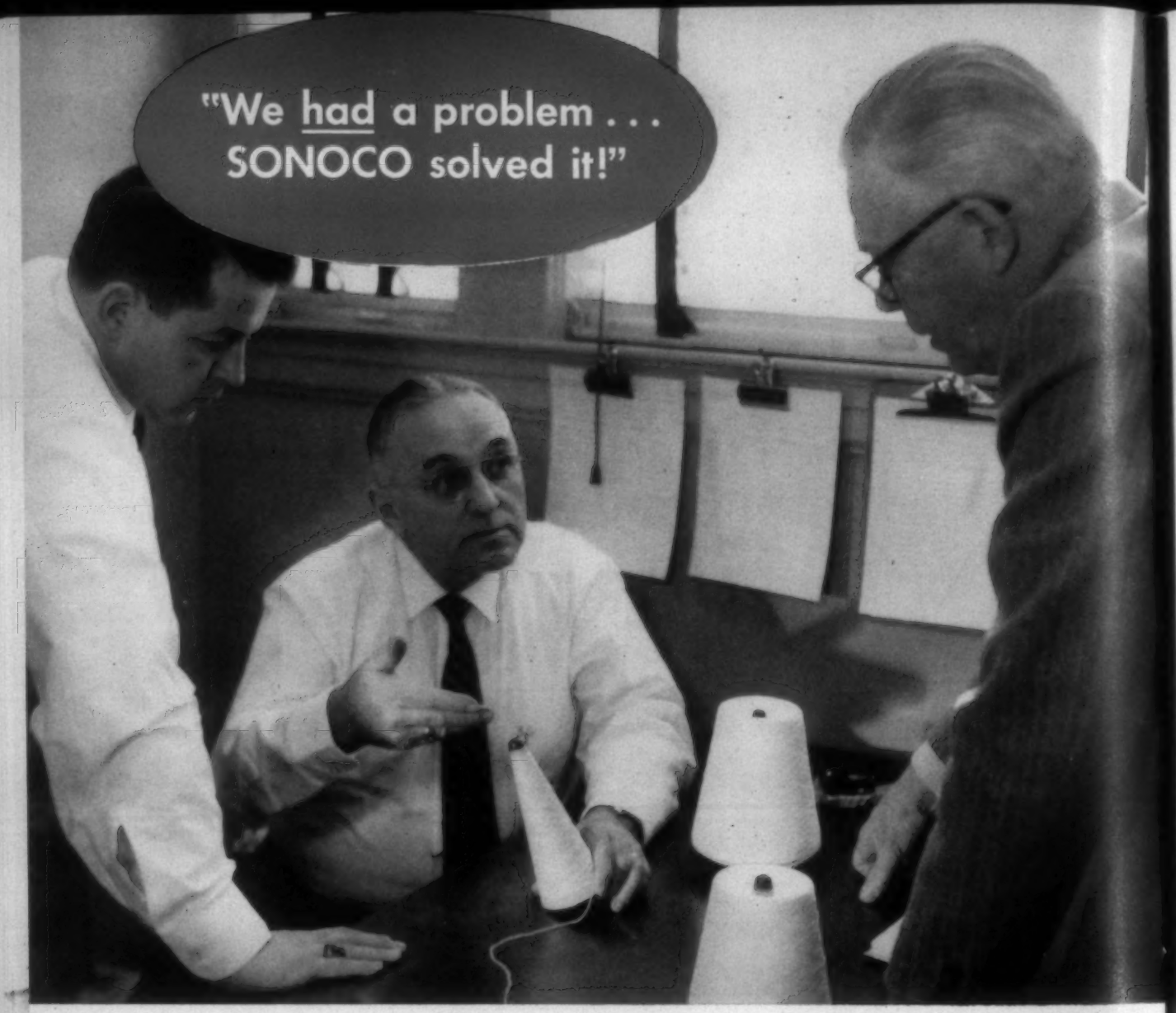
STONEVILLE, N. C. — Production and maintenance workers at Baxter Kelly & Faust Inc. here have rejected the Textile Workers Union of America as its representative. The election, supervised by the National Labor Relations Board, showed 100 against, 28 for and two challenged votes. The union suffered a previous defeat in 1956.

NEW YORK, N. Y.—M. Lowenstein & Sons here has reported first-quarter net profit of $852,763 or 30 cents a share on sales of $110,395,202 as compared with a profit of $603,580 or 21 cents a share on sales of $116,806,992 in the same period last year. Profit before taxes was $1,732,484 as compared with $1,671,735 in the first quarter last year. The company is looking for desirable acquisitions and is considering diversification into other fields. Leon Lowenstein, executive chairman of the board, reported that the company had started its operation in the Philippines and was looking at other locations in foreign markets. Lowenstein pointed out that foreign textile items are flooding the U. S. market and said, "If you can't beat them, join them."

ELKIN, N. C.—Chatham Mfg. Co. here has become a member of Woolens & Worsteds of America Inc., which is conducting a nationwide promotional program on behalf of American-made wool products. Initiated by the American Sheep Producers Council Inc., the campaign has the support of The National Association of Wool Manufacturers.

DANVILLE, VA.—Consolidated net sales of Dan River Mills here rose to $42,677,430 for the three months ended April 4, 1959, up from the sales volume of $40,631,125 recorded in the comparable period a year ago, according to W. J. Erwin, president. Consolidated net earnings were slightly above net profit in the first quarter of 1958, amounting to $1,251,287 this year as compared with $1,247,668 last year. On a per-share basis, net earnings for the quarter were equal to 27 cents, the same as for the like period in 1958.

NEW YORK, N. Y.—Glen Alden Corp. here was recently listed on the New York Stock Exchange. Among the industries with which the corporation is associated is textile finishing. Glen Alden has more than 10,000 stockholders and assets of $132,000,000. Trading on the exchange in the 5,558,934 Glen Alden shares available for dealings followed approval by stockholders at the corporation's annual meeting recently of the merger of List Industries into Glen Alden. The merger had been approved by List stockholders earlier. With consummation of the merger, List Industries, which had been traded on the New York Stock Exchange, was dissolved.



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textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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A Rutty Road

PRESIDENT EISENHOWER has given his official although somewhat restrained blessing to the establishment of a temporary Federal Inter-Agency Committee on textile problems. The action was a reversal of his earlier attitude that a committee approach to the solution of textile industry problems was a dangerous precedent; the danger being that other ailing industries might step up the tempo of their pleas for similar considerations.

The creation of this committee, it will be recalled, was one of the recommendations of the Pastore Senate Subcommittee. In fact, it was the first of the subcommittee's recommendations. And the proposal was that it be set up on a permanent (not a temporary) basis within the Department of Commerce, with representatives from the Departments of Commerce, Agriculture, Defense, Labor, State and Treasury, as well as representatives from the International Co-Operation Administration, the Office of Civilian Defense Mobilization and the Tariff Commission.

The purpose of the committee, as the Pastore Subcommittee saw it, would be to stimulate a new attitude and approach in the administration of governmental programs affecting the textile industry. Its function would be to bring about a wider understanding of the adverse effect some of these programs were having on the domestic textile industry.

On the face of it, it would not seem unreasonable for the industry to consider this recommendation of the Pastore Subcommittee as one most likely to be adopted. Not so. Opposition to it came first from the State Department, then from the Budget Bureau, and finally from the White House. No explanation has been given for the Administration's change of heart. It was an unexpected move; so much so that the news of it caught Commerce Department officials unprepared to comment on its plans for setting up the committee.

The difficulty encountered in implementing the first of the Pastore Subcommittee recommendations certainly doesn't give rise to much optimism in regard to the remaining nine. At the outset it was conceded that some more than others had tough rows to hoe. A danger now lies in the possibility that with the current upturn in textile fortunes may come a dulling of the desire on the part of some segments of the industry to keep battling for these objectives. The distraction of going after business in an improved market could conceivably contribute to an inadvertent inattention that would prove the undoing of many months of co-operative effort. The fact that Item No. 1 got on the board by the skin of its teeth can stand as a reminder that many a rut lies in the road ahead.

A Lesson To Be Learned

THE old song goes, "You can just cry me a river." It looks like the T.W.U.A. leadership is doing just that. The union leaders have been busy of late diluting their respective beers with salty tears on behalf of the strikers at the Harriet Henderson Mills. In between crying jags, these leaders have been clinking their glasses together in toasts to the courage, valor and principle being displayed by the workers.

Now all these lugubrious pronouncements and high-sounding tributes to the workers are all right with us—up to a point. But no one is free to praise lawlessness. Does "courage" include firing rifles into the mill under the cover of darkness? Does "valor" refer to the setting off of dynamite near private homes? Does "principle" include teaching small children to yell "scab" and other terms of opprobrium at non-striking workers? If they do then we had better tear up the U. S. Constitution and re-write the Ten Commandments because those documents were written when men knew right from wrong.

The fact is the union is fighting desperately for survival and cannot afford to repudiate such violence for fear of

losing the possible benefits of such irresponsible actions. The T.W.U.A. attempts to equate itself with the workers. Such is not the case. The T.W.U.A. is in the "union" business. Its aim is not to represent the worker but to dictate to him—to gather him under its protective and confining wings and thus increase its power for accomplishing goals it has already set independent of the desires of the local workers.

The workers may lose their jobs, or $2 million dollars in wages as the Henderson workers have, but the union can always claim some sort of a victory because it has nothing to lose. The workers may lose, management may lose or both but the union is again successful in demonstrating how much strife it can create within a community if its demands are not granted.

In all fairness we realize that a small percentage of the workers are responsible for the violence at Henderson. Still it would have been an encouraging sound to hear the union leadership condemn such actions. No such condemnation came. In fact the union announced that a tense situation had been created by the management's opposition to its demands and that it would not be responsible for what the workers might do.

We hope that from its lack of success at Henderson the T.W.U.A. leadership will realize that the end does not justify the means; that human life is a sacred thing not to be endangered; and that even a labor union is responsible to the laws of the state and of the nation.

Enlightened Depreciation Laws

GREAT BRITAIN'S troubled textile industry (Feb. TB, P. 44) may be in for a measure of financial assistance from its government under a proposal now being studied by the British House of Commons. A five-year plan presented by the Board of Trade calls for the government to contribute two-thirds toward the cost of eliminating surplus capacity, the remaining one-third being borne by the industry through a levy on its members. Depending on industry response, the plan could cost the government some $84 million, the Board of Trade estimates. To qualify, individual mills would have to scrap machinery now in production. The plan is entirely a voluntary one, and its proponents believe that in time the project can be put to work in reverse with additional aid being made available to mills for the modernizing of existing machinery and possibly even the purchase of new machinery.

The plan is in startling contrast to the attitude afforded machinery depreciation rates in the U. S. Efforts in this country to revise depreciation schedules toward more realistic levels have had little success. As pointed out last month by the American Eonomic Foundation, expenditures for new and/or rebuilt textile machinery and parts has fallen from an annual rate in 1947 of $510 million to $252 million—a drop of 50.6%.

In many cases, the A.E.F. pointed out, machinery prices have doubled since the last war and trebled since 1940. At that rate, according to 1959 standards of efficiency, the obsolescence of textile equipment is currently about 70%, making it one of the worst obsolescence rates of all American industries. Present depreciation schedules provide that only the original cost be written off. To make up the present cost of new machinery, mills must first pay taxes on its profits, part of which turn out to be not retained profits at all, and hope there is enough left over to buy new machines.

The irony of it is that since the end of World War II American textile machinery manufacturers have increased by more than 200% their total expenditures on research and development. The result has been the introduction of new machinery that the industry in many instances can't afford. An increase in large capital expenditures would accomplish a number of things, the A.E.F. points out. It would: (1) retain and ultimately create jobs; (2) revitalize the industry; (3) lower unit costs and thus hold the line against inflation; (4) enable the industry to cope more effectively with foreign competition; (5) increase earnings; and (6) ultimately produce higher tax revenue for the U. S. Treasury as a result of the higher earnings.

Bargaining for what the A.E.F. describes as "enlightened depreciation laws" are the American Textile Machinery Association, the American Cotton Manufacturers Institute and the Pastore Senate Subcommittee. On their success hangs the fate of many a tired old mill.

TEXTILE INDUSTRY SCHEDULE

— 1959 —

May 28-30 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Sea Island, Ga.

June 18-20 (Th-Sa)—51st Annual Convention, **SOUTHERN TEXTILE ASSOCIATION**, The Ocean Forest Hotel, Myrtle Beach, S.C.

Sept. 10-11 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Textile Research Institute, Princeton, N. J.

Sept. 17-18 (F-Sa)—Annual outing, **CHATTANOOGA YARN ASSOCIATION**, The Read House, Chattanooga, Tenn.

Oct. 1-2 (Th-F)—Fall meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 3 (Sa)—Fall meeting, **TEXTILE OPERATING EXECUTIVES OF GEORGIA** (Slashing & Weaving), Hightower Textile Building, Georgia Tech, Atlanta.

Oct. 7 (W)—**CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Mayflower Hotel, Washington, D. C.

Oct. 8-9 (Th-F)—Fall meeting, **SOUTHERN TEXTILE METHODS & STANDARDS ASSOCIATION**, The Clemson House, Clemson, S. C.

Oct. 8-10 (Th-Sa)—Annual national convention, **A.A.T.C.C.**, Sheraton Park and Shoreham Hotels, Washington, D. C.

Oct. 10 (Sa)—Fall general meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES** (Carding and Spinning), Langdon Hall, Alabama Polytechnic Institute, Auburn, Ala.

Oct. 17 (Sa)—Annual meeting, **(GEORGIA) TEXTILE EDUCATION FOUNDATION**, A. French Textile School, Georgia Tech, Atlanta.

Oct. 27-28 (Tu-W)—Technical Advisory Committee meeting and Board of Trustees meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

— 1960 —

Apr. 7-9 (Th-Sa)—Annual meeting, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Americana Hotel, Bal Harbour, Fla.

May 23-27 (M-F)—**AMERICAN TEXTILE MACHINERY EXHIBITION**, Atlantic City, N. J.

June 23-25 (Th-Sa)—52nd annual convention, **SOUTHERN TEXTILE ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 3-7 (M-F)—The 21st **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

CLASSIFIED ADVERTISING

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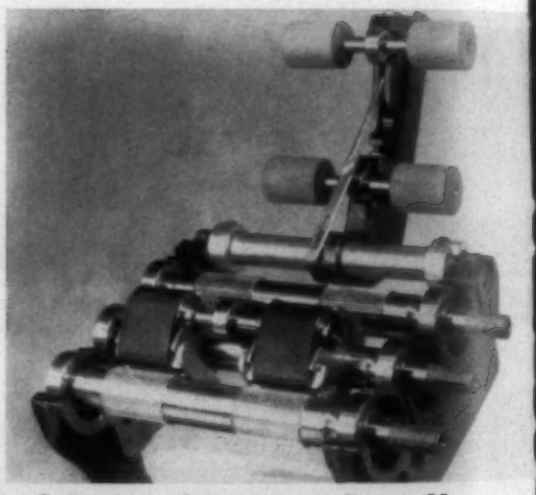

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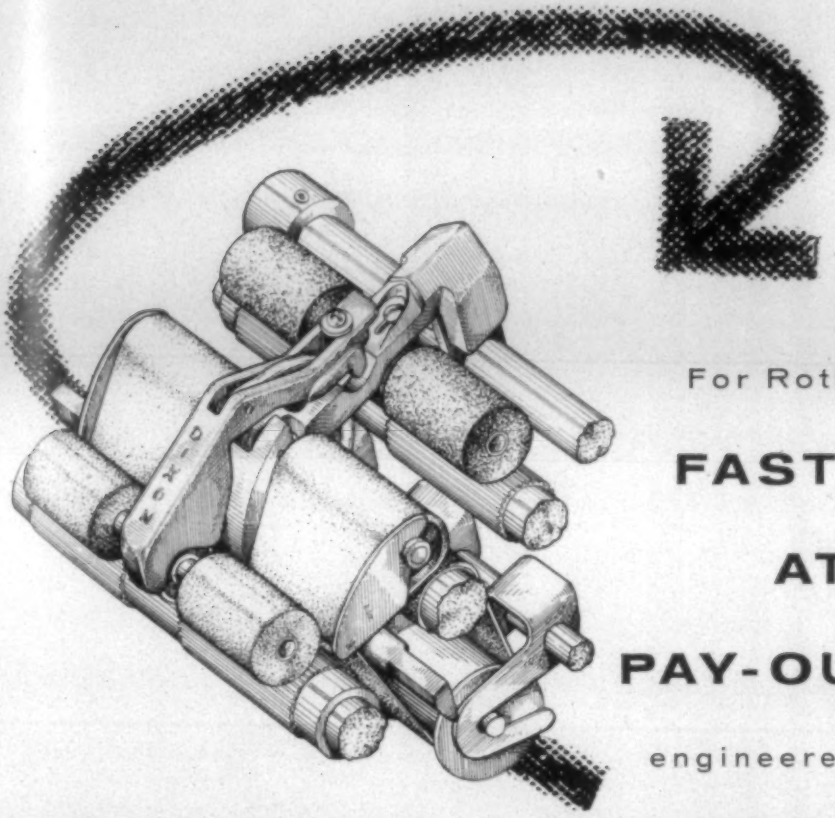

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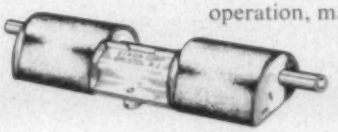
While Dixon Spinning Changeovers are often installed complete in one operation, many mills take advantage of our multi-step changeover program.



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J. P. Stevens	72,800	Double Apron Casablancas
Clinton Cotton Mills	85,612	Double Apron Casablancas
Crompton Highland Mills	10,300	Double Apron Roth
Adelaide Mills	12,122	Double Apron Casablancas

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